



Utah Water Supply Outlook Report

February 1, 2021



American Fork River above Tibble Fork Reservoir

Photo by Jordan Clayton

Water Supply Outlook Reports and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact: your local Natural Resources Conservation Service Office or:

Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in statistical and simulation models to prepare runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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STATE OF UTAH GENERAL OUTLOOK

February 1, 2021

SUMMARY

We need more snow! As of February 1st, the snow water equivalent (SWE) measured at our SNOTEL sites is 65% of normal statewide, with all major basins below 83%. The Lower Sevier, Beaver, and Weber & Ogden basins are faring the worst at 46%, 53%, and 60% of normal SWE, respectively. With about two months remaining until our typical snowpack peak, our statewide SWE needs to improve by 9.4" to achieve normal conditions, which now only has about a 10% likelihood of occurring. Water-year-to-date precipitation for the state is also quite low at only 60% of average. Worse, as noted in previous reports, soil moisture levels in the state are exceptionally dry—currently at only 25% of saturation (or roughly 54% of normal). Utah's poor snowpack conditions, lagging precipitation, extremely dry soils, and low antecedent streamflow are impacting runoff conditions; streamflow forecasts for April to July snowmelt runoff volume are generally between 25% and 60% of average, with several forecast points at around 20%. Utah's reservoir storage is currently at 65% of capacity, down 15% from last year. When combined with the low forecasts, the resulting Surface Water Supply Indices for Utah basins are alarmingly low. **It is increasingly likely that Utah will experience below to well-below average water supply conditions for the 2021 water year.** Water managers should plan accordingly.

SNOWPACK

Statewide snowpack is well below normal at 65% compared to 117% last year. The basins with the highest percent normal SWE are the Escalante (82%), Southwestern Utah (75%), and the Dirty Devil (69%).

PRECIPITATION

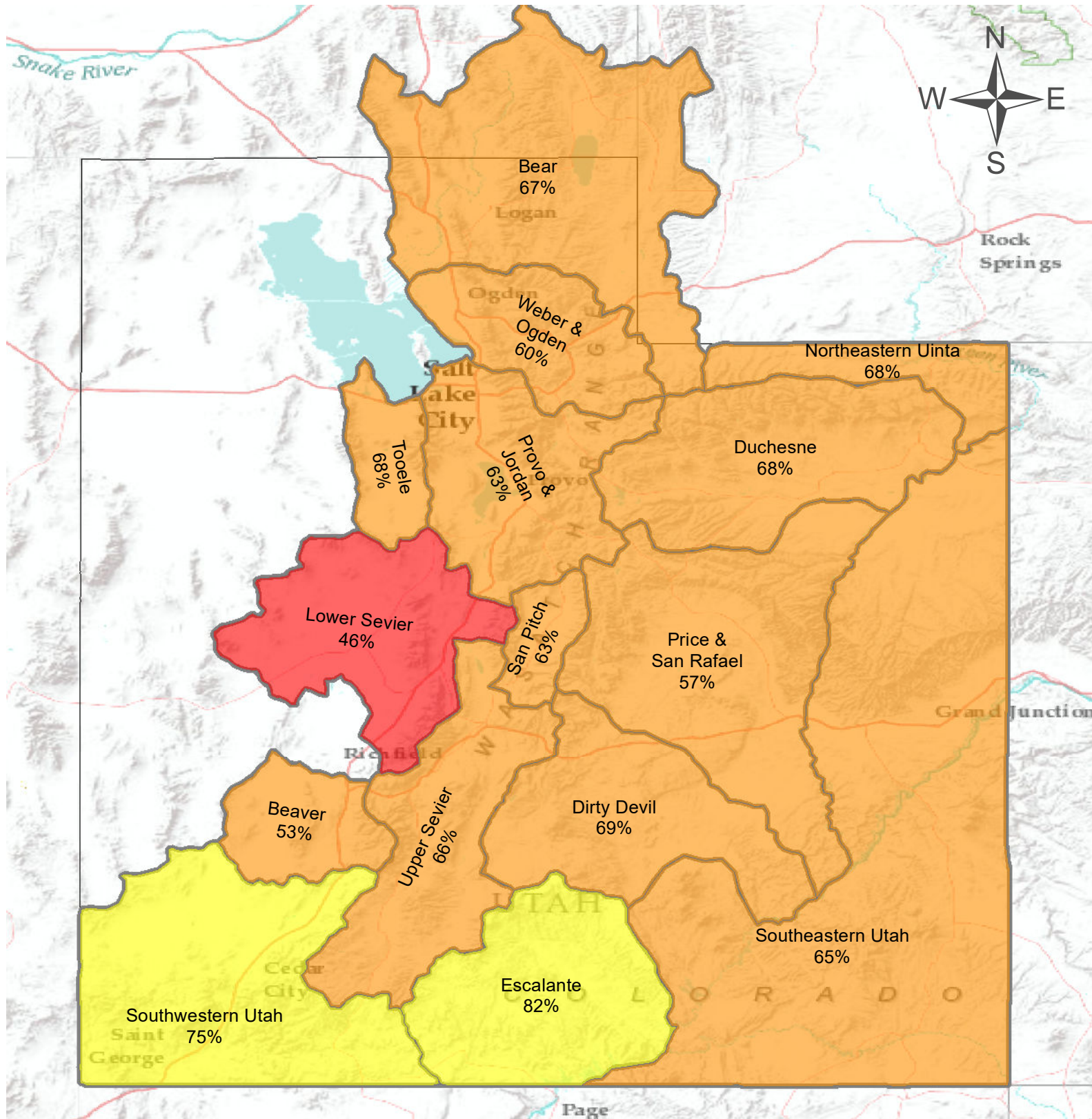
February precipitation across the state was well-below average at 68%, which brings the seasonal accumulation (Oct-Jan) to 60% of average. All Utah watersheds are between 53% and 73% of average, with the lowest values for the Beaver, San Pitch, and Price & San Rafael watersheds.

RESERVOIRS

Reservoir storage is at 65% of capacity statewide compared to 80% last year.

STREAMFLOW

February 1 streamflow forecasts for April to July are for well-below normal runoff, with extremely low flow predicted for some locations. Forecast values range from 18% of average for the Bear River bl Stewart Dam to 69% of average for the Sevier River nr Gunnison.

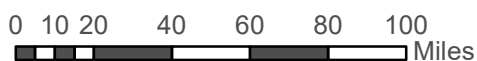
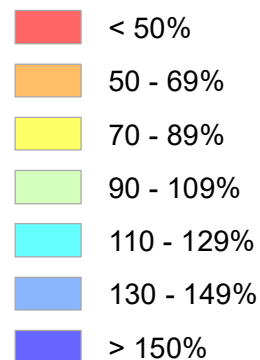


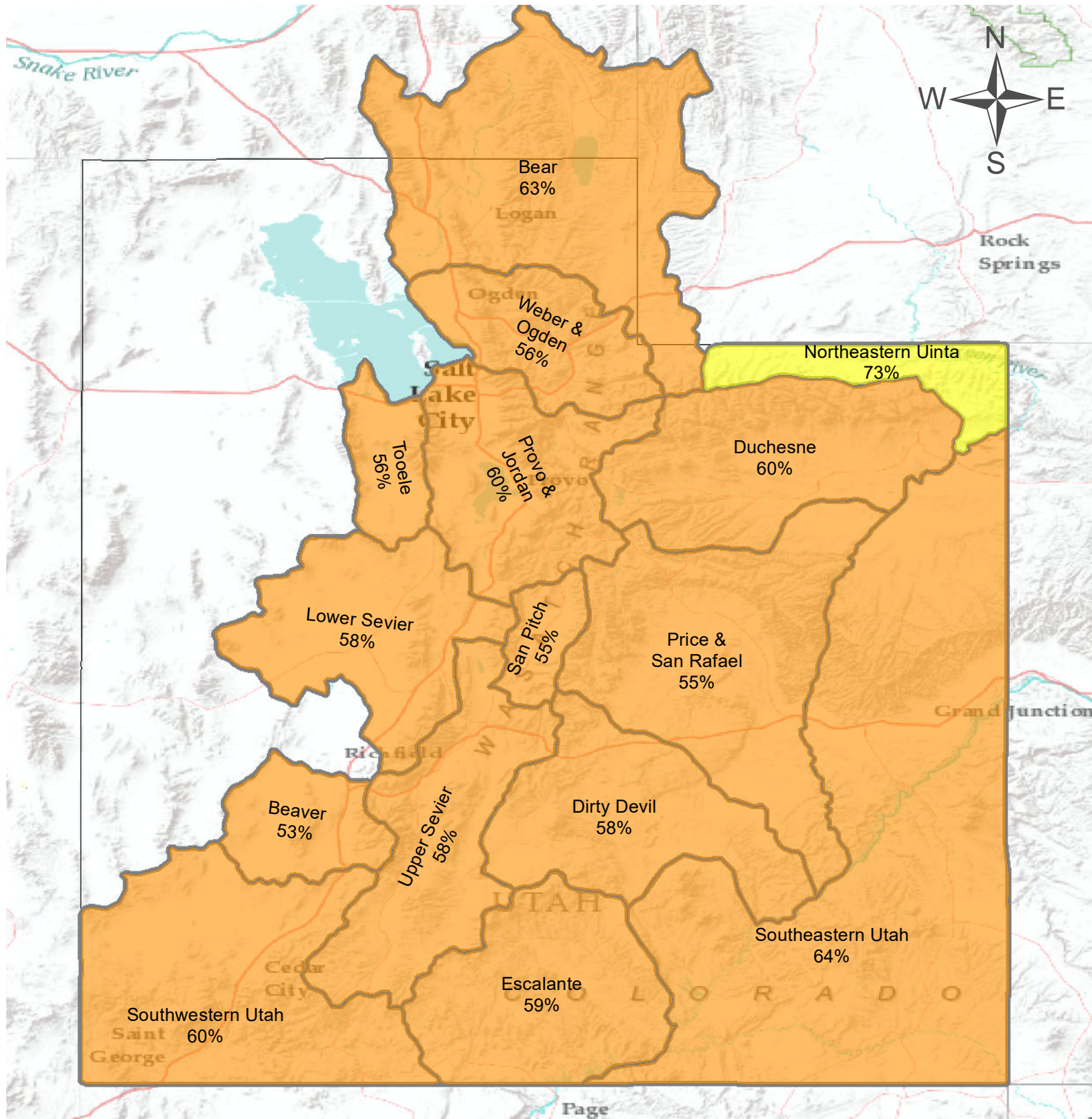
Statewide Snow Water Equivalent

As of February 1, 2021:

65% of Normal Snow Water Equivalent

% of Normal





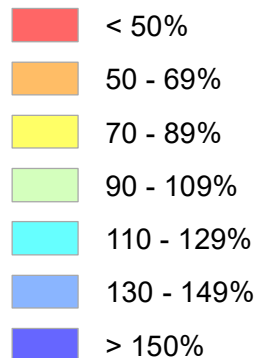
Statewide Precipitation

As of February 1, 2021:

60% of Normal Precipitation

68% of Normal Precipitation Last Month

% of Normal



February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Bear River	795.5	33.0	828.5	55	0.4	01, 13, 88, 81
Woodruff Narrows	25.1	56.0	81.1	10	-3.37	04, 01, 13, 03
Little Bear	10.1	10.0	20.1	7	-3.61	15, 13, 04, 01
Ogden River	56.6	64.0	120.6	40	-0.79	18, 91, 89, 20
Weber River	241.6	88.0	329.6	14	-2.98	14, 03, 07, 02
Provo River	963.8	55.0	1018.8	39	-0.89	14, 02, 18, 13
Western Uinta	154.4	56.0	210.4	19	-2.58	03, 04, 12, 07
Eastern Uinta	22.5	40.5	63.0	10	-3.37	02, 18, 13, 89
Blacks Fork	4.2	54.0	58.2	5	-3.74	02, 07, 94, 04
Smiths Fork	3.7	16.0	19.7	13	-3.1	94, 04, 07, 12
Price River	32.8	18.0	50.8	31	-1.59	89, 94, 01, 07
Joe's Valley	38.4	25.0	63.4	10	-3.37	90, 02, 03, 91
Ferron Creek	4.0	17.0	21.0	5	-3.77	18, 13, 02, 12
Moab	0.6	2.3	2.9	17	-2.74	90, 89, 12, 04
Upper Sevier	54.5	42.0	96.5	21	-2.38	18, 09, 13, 17
San Pitch	0.0	11.0	11.0	14	-2.98	16, 15, 20, 14
Lower Sevier	79.4	68.0	147.4	33	-1.39	20, 14, 90, 94
Beaver River	6.7	14.0	20.7	12	-3.17	04, 90, 03, 07
Virgin River	29.7	27.0	56.7	20	-2.5	15, 07, 04, 18

^{*}EOM, end of month; [#]SWSI, surface water supply index; [^]KAF, thousand acre-feet.

What is a Surface Water Supply Index?

The Surface Water Supply Index (SWSI) is a predictive indicator of total surface water availability within a watershed for the spring and summer water use seasons. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow which are based on current snowpack and other hydrologic variables. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) with a value of zero (0) indicating median water supply as compared to historical analysis. SWSI's are calculated in this fashion to be consistent with other hydroclimatic indicators such as the Palmer Drought Index and the Precipitation index.

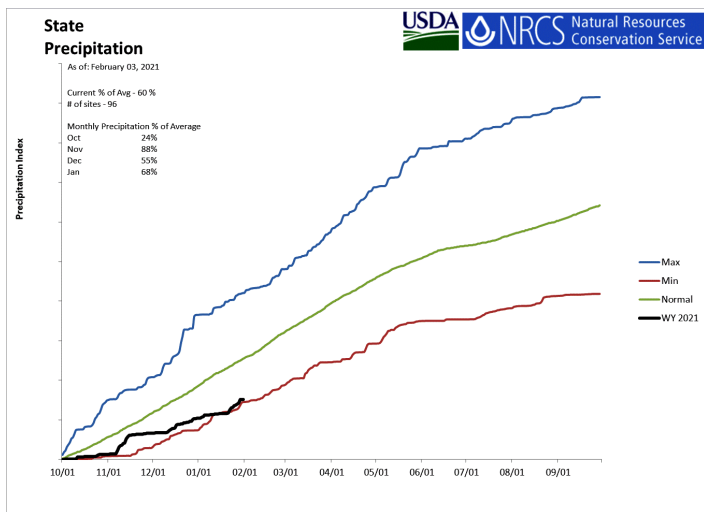
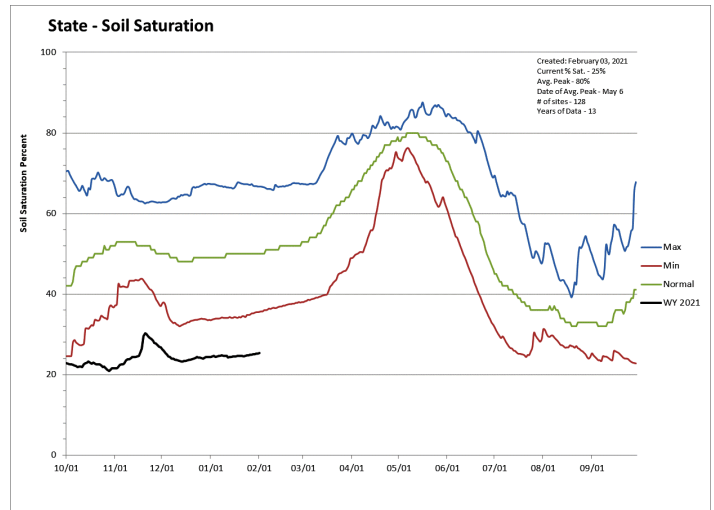
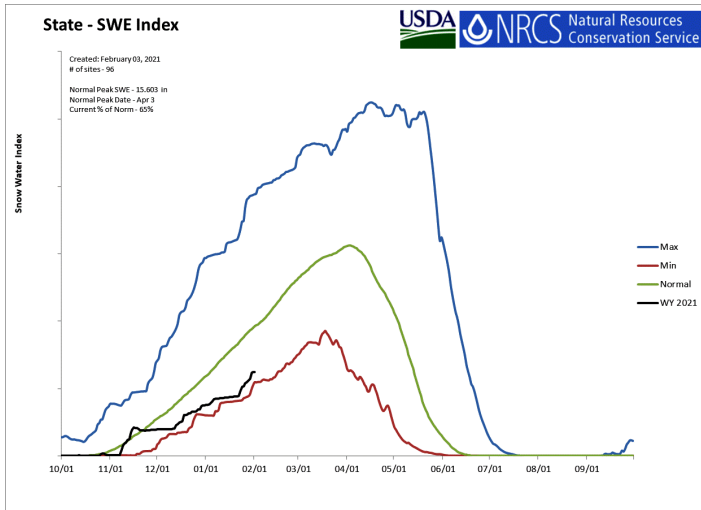
Utah Snow Surveys has also chosen to display the SWSI value as well as a PERCENT CHANCE OF NON-EXCEEDANCE. While this is a cumbersome name, it has the simplest application. It can be best thought of as a scale of 1 to 99 with 1 being the drought of record (driest possible conditions) and 99 being the flood of record (wettest possible conditions) and a value of 50 representing average conditions. This rating scale is a percentile rating as well, for example a SWSI of 75% means that this years water supply is greater than 75% of all historical events and that only 25% of the time has it been exceeded. Conversely a SWSI of 10% means that 90% of historical events have been greater than this one and that only 10% have had less total water supply. This scale is comparable between basins: a SWSI of 50% means the same relative ranking on watershed A as it does on watershed B, which may not be strictly true of the +4 to -4 scale.

For more information on the SWSI go to: www.ut.nrcs.usda.gov/snow/ on the water supply page. The entire period of historical record for reservoir storage and streamflow is available.

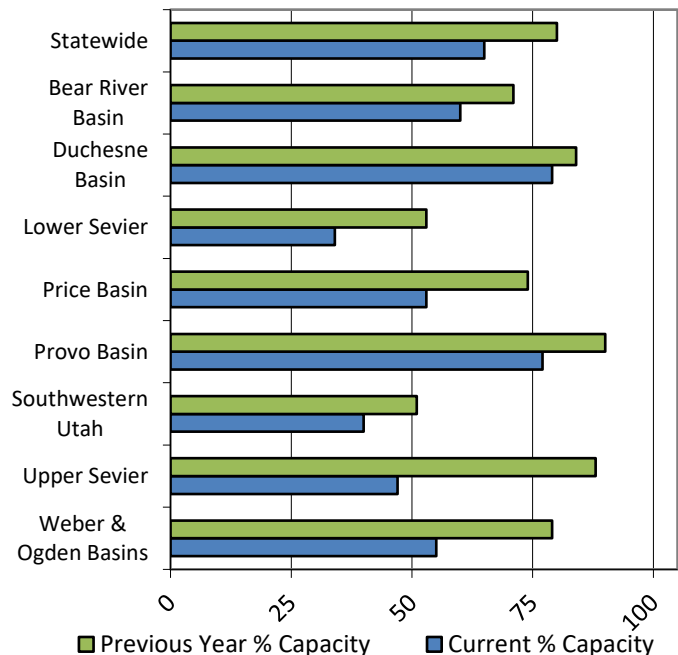
Statewide Utah

February 1, 2021

Snowpack in Utah is much below normal at 65% of normal, compared to 117% last year. Precipitation in January was much below average at 68%, which brings the seasonal accumulation (Oct-Jan) to 60% of average. Soil moisture is at 25% compared to 43% last year. Reservoir storage is at 65% of capacity, compared to 80% last year. Forecast streamflow volumes range from 18% to 69% of average.



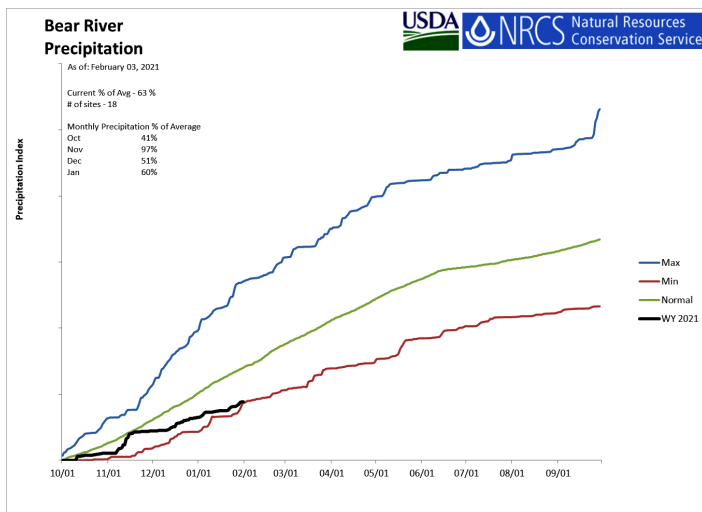
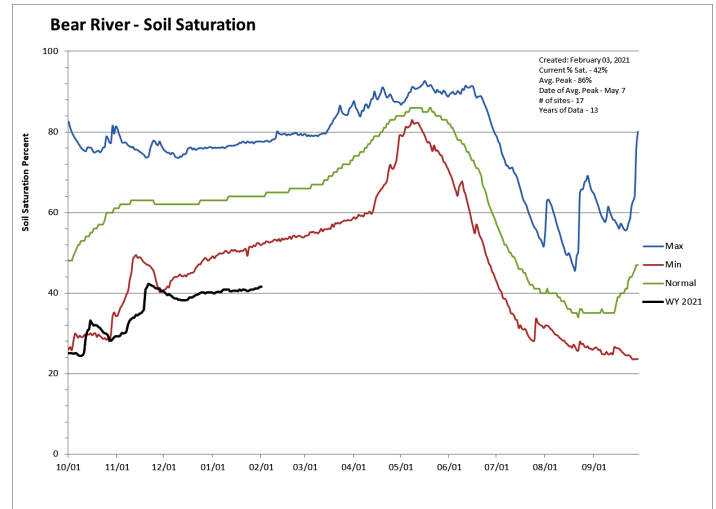
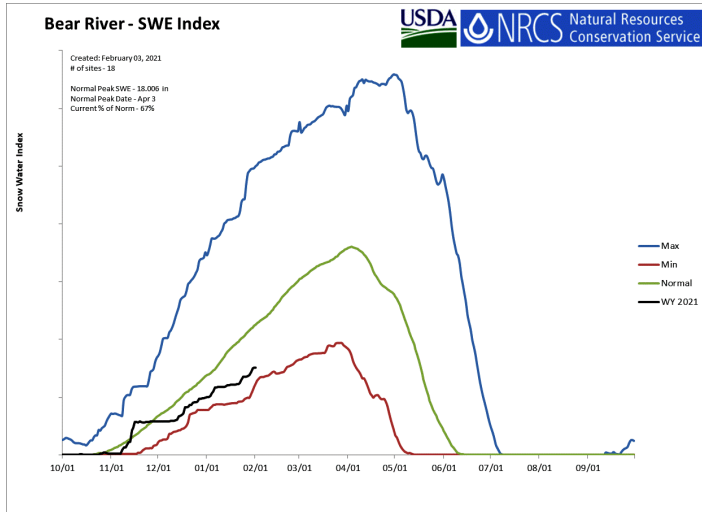
Reservoir Storage



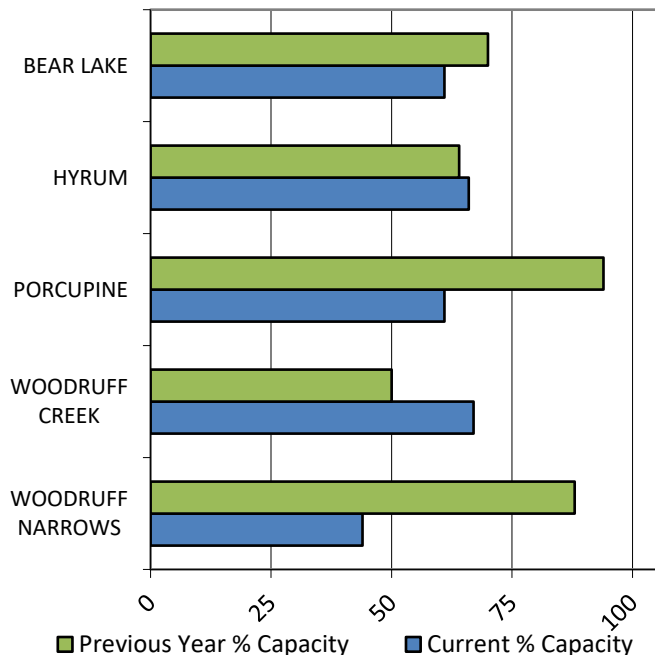
Bear River Basin

February 1, 2021

Snowpack in the Bear River Basin is much below normal at 67% of normal, compared to 111% last year. Precipitation in January was much below average at 59%, which brings the seasonal accumulation (Oct-Jan) to 63% of average. Soil moisture is at 43% compared to 62% last year. Reservoir storage is at 60% of capacity, compared to 71% last year. Forecast streamflow volumes range from 18% to 65% of average. The surface water supply index is 55% for the Bear River, 10% for the Woodruff Narrows, 7% for the Little Bear.



Reservoir Storage



Bear River Streamflow Forecasts - February 1, 2021

Bear River	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Bear R nr UT-WY State Line	APR-JUL	16.1	40	56	50%	73	97	112
	APR-SEP	18.6	45	63	51%	81	108	123
Bear R ab Resv nr Woodruff	APR-JUL	2.4	12.1	35	29%	71	123	121
	APR-SEP	3.8	14.1	38	30%	77	134	128
Big Ck nr Randolph	APR-JUL	0.11	0.57	1	26%	2.6	3.5	3.8
Smiths Fk nr Border	APR-JUL	27	45	56	63%	68	86	89
	APR-SEP	34	54	68	65%	82	102	104
Bear R bl Stewart Dam	FEB-JUL	0	10.8	49	23%	111	205	215
	FEB-SEP	0	12	55	23%	125	225	240
	MAR-JUL	6.2	14.4	45	22%	106	176	205
	MAR-SEP	0.46	9.2	50	22%	119	200	230
	APR-JUL	0	7.3	33	18%	91	177	183
	APR-SEP	0.21	12.3	37	18%	102	199	205
Little Bear at Paradise	APR-JUL	0.9	3.6	10	22%	20	32	45
Logan R nr Logan	APR-JUL	14.6	40	57	51%	74	100	111
Blacksmith Fk nr Hyrum	APR-JUL	1.72	5.2	10	23%	18.9	32	43

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bear Lake	795.4	912.3	584.8	1302.0
Hyrum Reservoir	10.1	9.8	10.2	15.3
Porcupine Reservoir	6.9	10.6	6.0	11.3
Woodruff Creek	2.7	2.0	2.4	4.0
Woodruff Narrows Reservoir	25.1	50.6	29.0	57.3
Basin-wide Total	840.3	985.4	632.4	1389.9
# of reservoirs	5	5	5	5

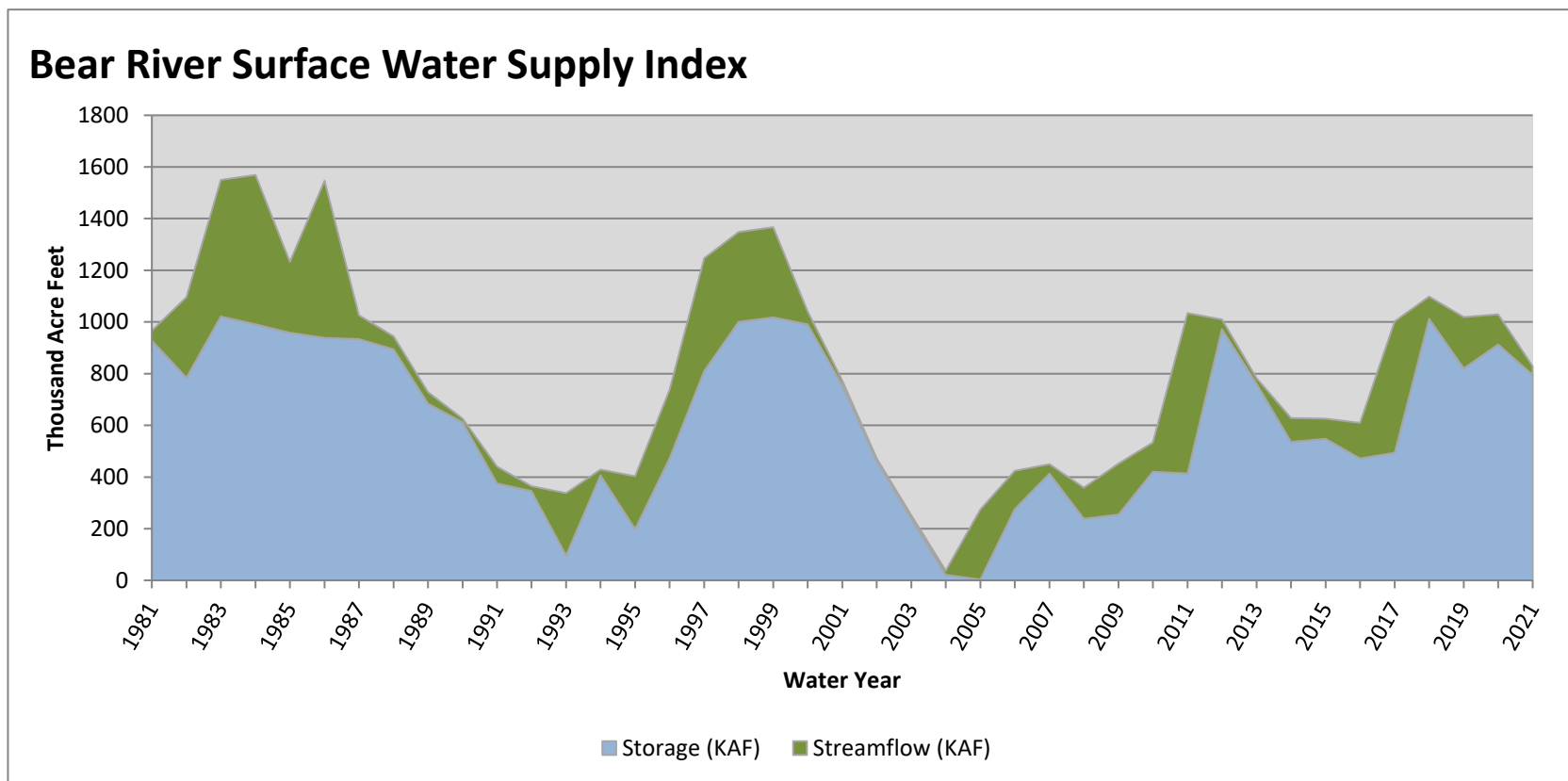
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Upper Bear	3	69%	118%
Middle Bear	7	76%	112%
Lower Bear	3	58%	93%
Logan River	7	62%	114%

February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Bear River	795.45	33.00	828.45	55	0.4	01, 13, 88, 81

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

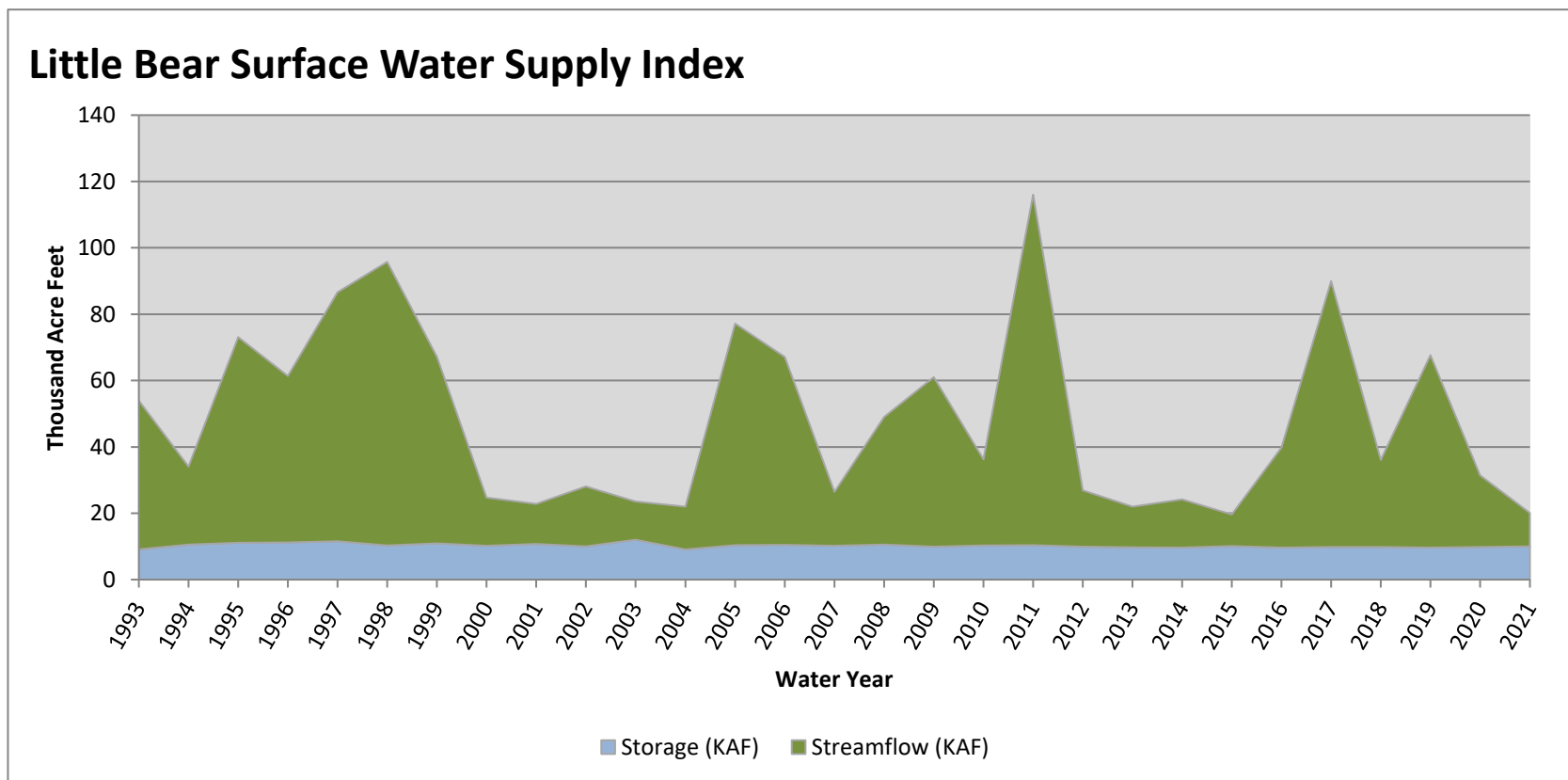


February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Little Bear	10.05	10.00	20.05	7	-3.61	15, 13, 04, 01

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

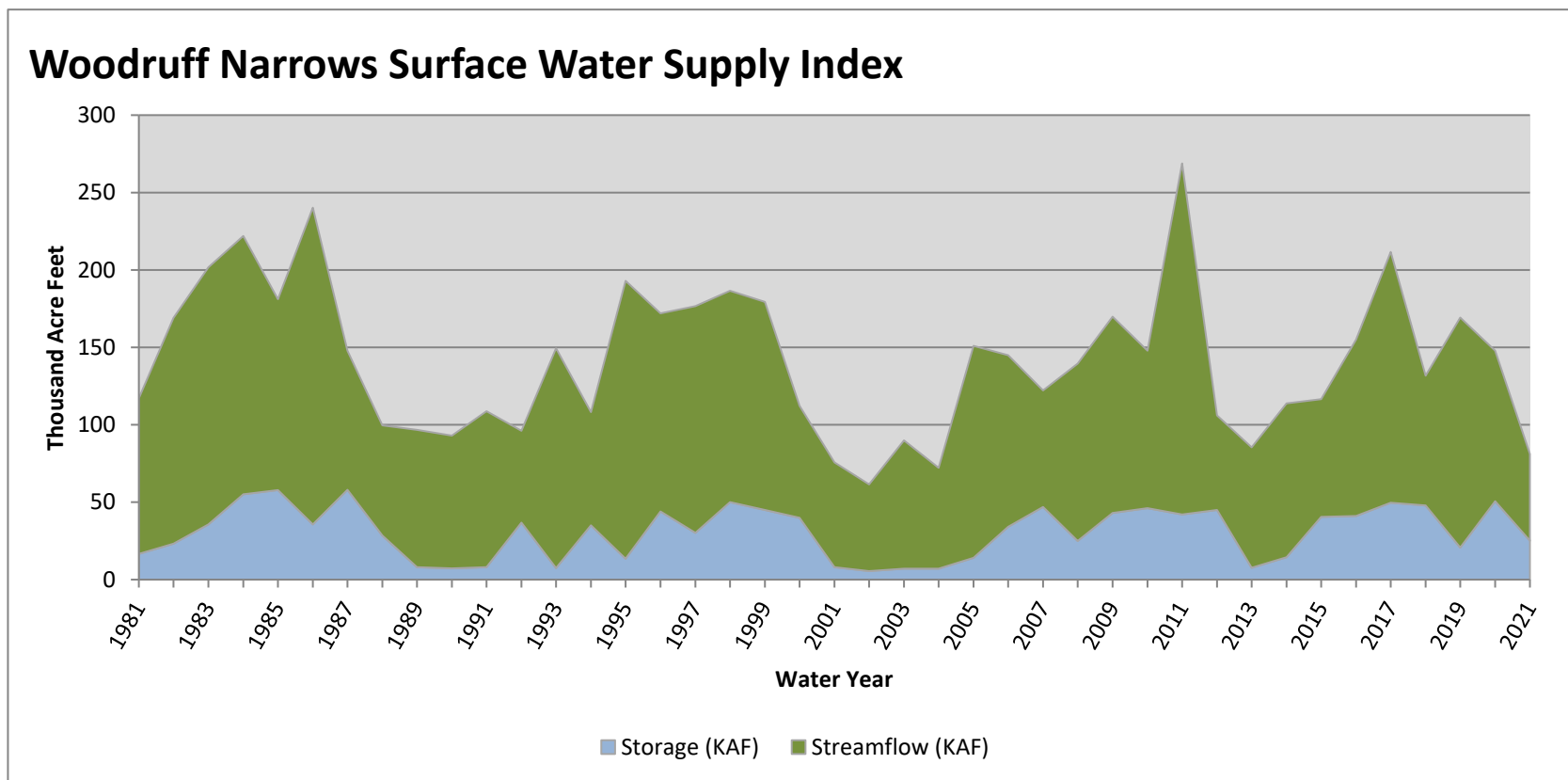


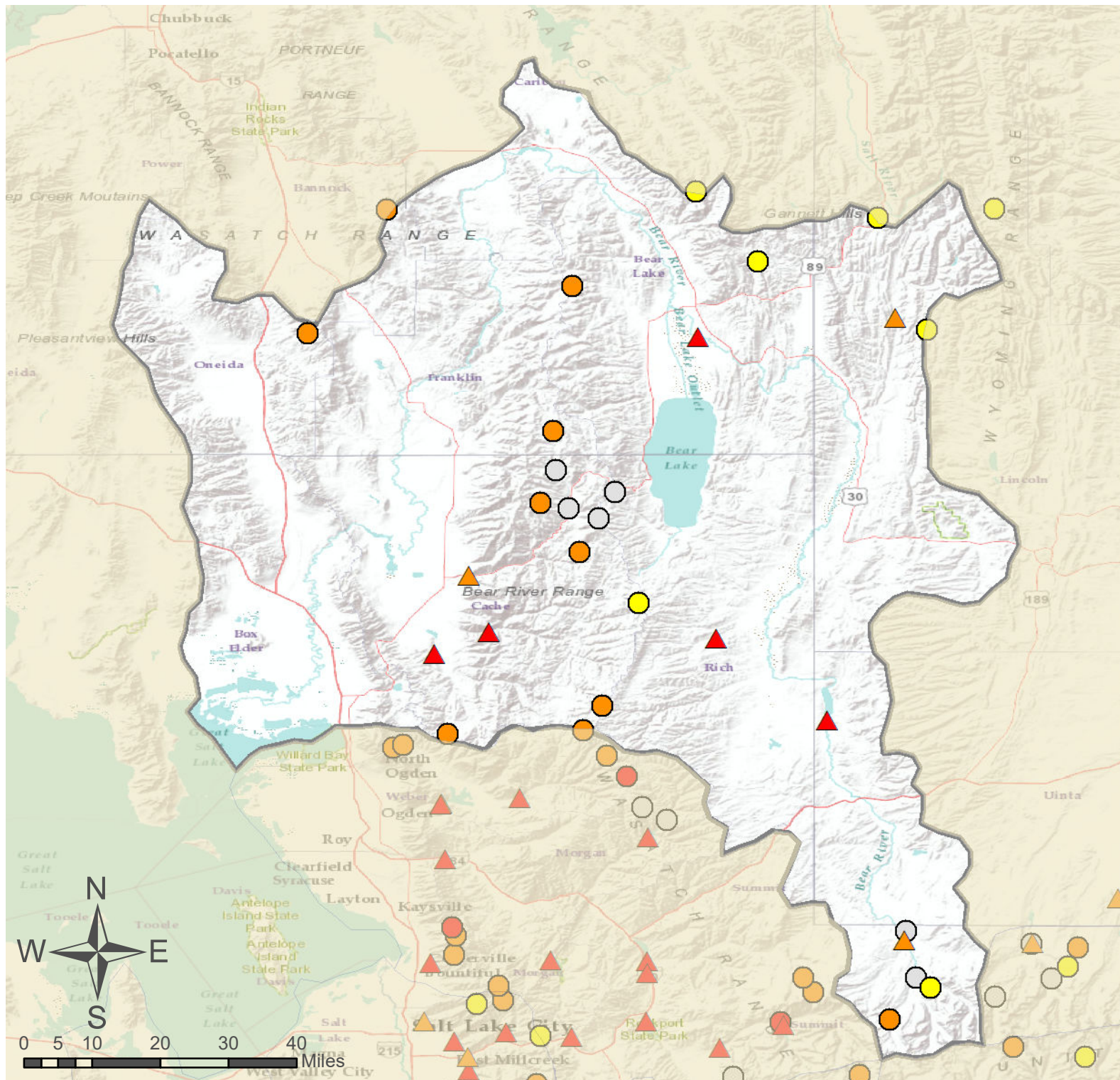
February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Woodruff Narrows	25.14	56.00	81.14	10	-3.37	04, 01, 13, 03

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.





Bear River Basin

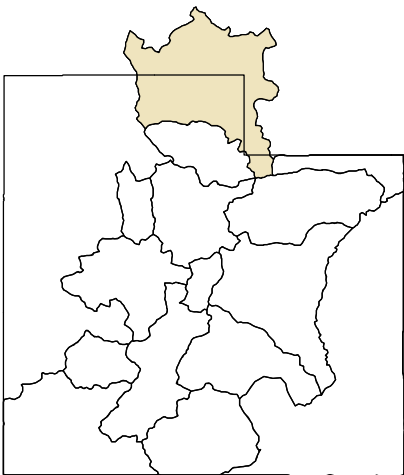
- SNOTEL Site
- △ Forecast Point

As of February 1, 2021:

67% of Normal SWE
 63% of Normal Precipitation
 59% of Normal Precipitation Last Month
 43% Saturation Soil Moisture
 Bear River Basin

% of Normal

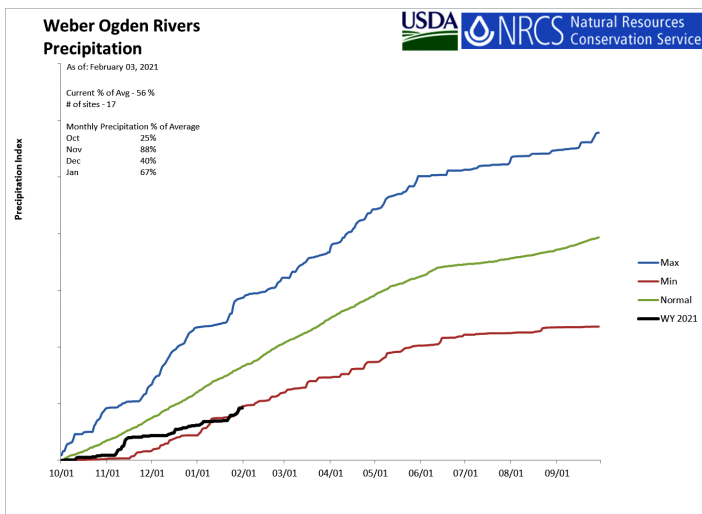
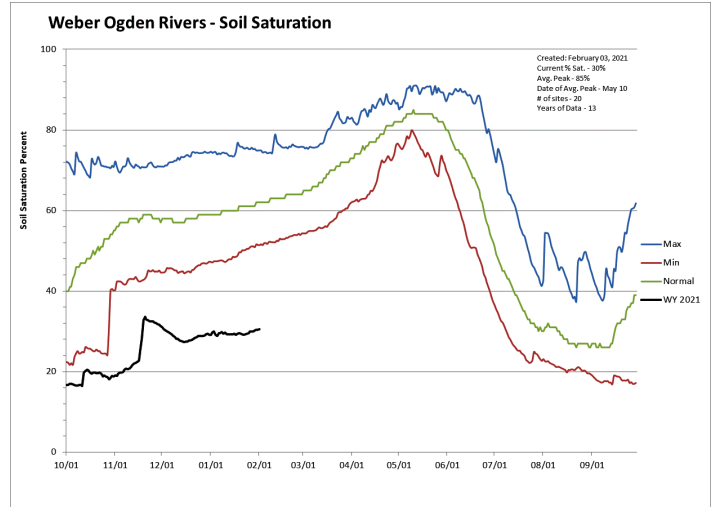
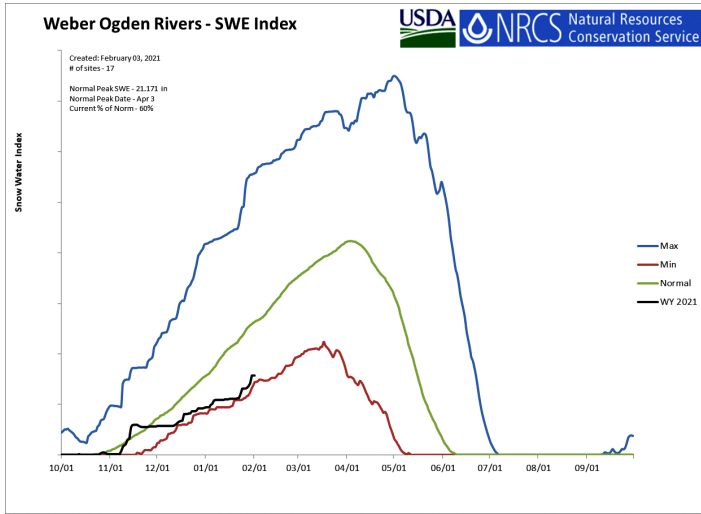
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



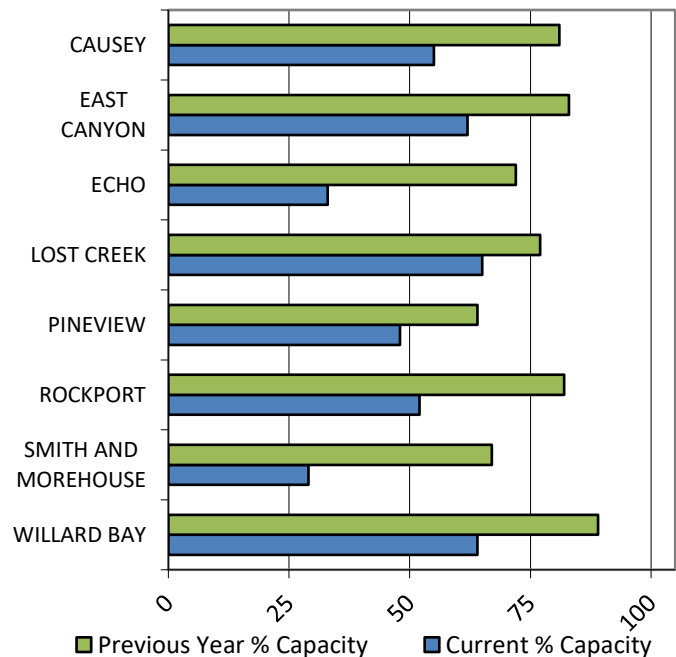
Weber & Ogden River Basins

February 1, 2021

Snowpack in the Weber & Ogden River Basins is much below normal at 60% of normal, compared to 106% last year. Precipitation in January was much below average at 67%, which brings the seasonal accumulation (Oct-Jan) to 56% of average. Soil moisture is at 30% compared to 57% last year. Reservoir storage is at 55% of capacity, compared to 79% last year. Forecast streamflow volumes range from 28% to 54% of average. The surface water supply index is 40% for the Ogden River, 14% for the Weber River.



Reservoir Storage



Weber Ogden Rivers Streamflow Forecasts - February 1, 2021

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

Weber Ogden Rivers	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Smith & Morehouse Resv Inflow	APR-JUL	6.1	11.4	15	44%	18.6	24	34
Weber R nr Oakley	APR-JUL	4.3	30	48	41%	66	92	117
Rockport Reservoir Inflow	APR-JUL	4.9	16.2	41	33%	66	102	123
Chalk Ck at Coalville	APR-JUL	0.82	2.5	11.5	28%	22	38	41
Weber R nr Coalville	APR-JUL	2.5	18.1	43	34%	68	105	126
Echo Reservoir Inflow	APR-JUL	5	22	63	38%	104	164	166
Lost Ck Reservoir Inflow	APR-JUL	0.24	1.45	4.1	34%	8	12.6	12.1
East Canyon Ck nr Jeremy Ranch	APR-JUL	0.15	1.37	5	33%	9.6	16.3	15.2
East Canyon Ck nr Morgan	APR-JUL	0.56	2.2	9	32%	15.8	26	28
Weber R at Gateway	APR-JUL	6.3	35	88	28%	183	325	315
SF Ogden R nr Huntsville	APR-JUL	1.68	11.5	25	45%	39	59	56
Pineview Reservoir Inflow	APR-JUL	5.9	34	64	54%	93	137	118
Wheeler Ck nr Huntsville	APR-JUL	0.19	1.44	2.8	44%	4.2	6.2	6.3
Centerville Ck	APR-JUL	0.06	0.38	0.6	44%	0.82	1.14	1.35

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Causey Reservoir	3.9	5.8	3.2	7.1
East Canyon Reservoir	30.9	41.3	34.7	49.5
Echo Reservoir	24.4	52.9	46.3	73.9
Lost Creek Reservoir	14.6	17.2	12.3	22.5
Pineview Reservoir	52.7	70.1	51.4	110.1
Rockport Reservoir	31.6	49.8	34.5	60.9
Willard Bay	137.7	190.6	133.7	215.0
Smith And Morehouse Reservoir	2.4	5.4	3.6	8.1
Basin-wide Total	298.2	433.1	319.7	547.1
# of reservoirs	8	8	8	8

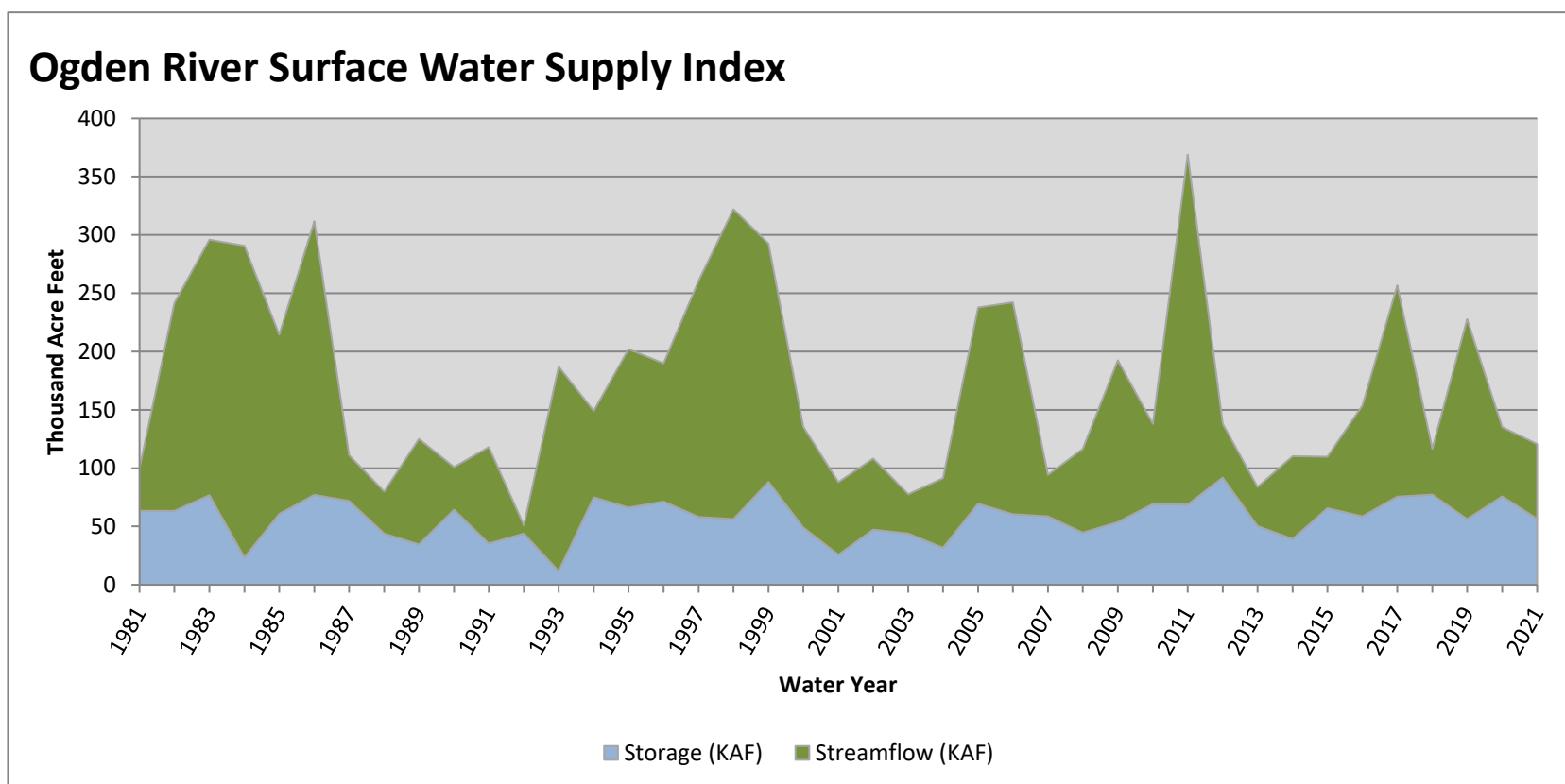
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Upper Weber	9	60%	110%
Lower Weber	7	61%	109%
Ogden River	5	60%	98%
Lost Creek	3	59%	108%

February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Ogden River	56.60	64.00	120.60	40	-0.79	18, 91, 89, 20

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

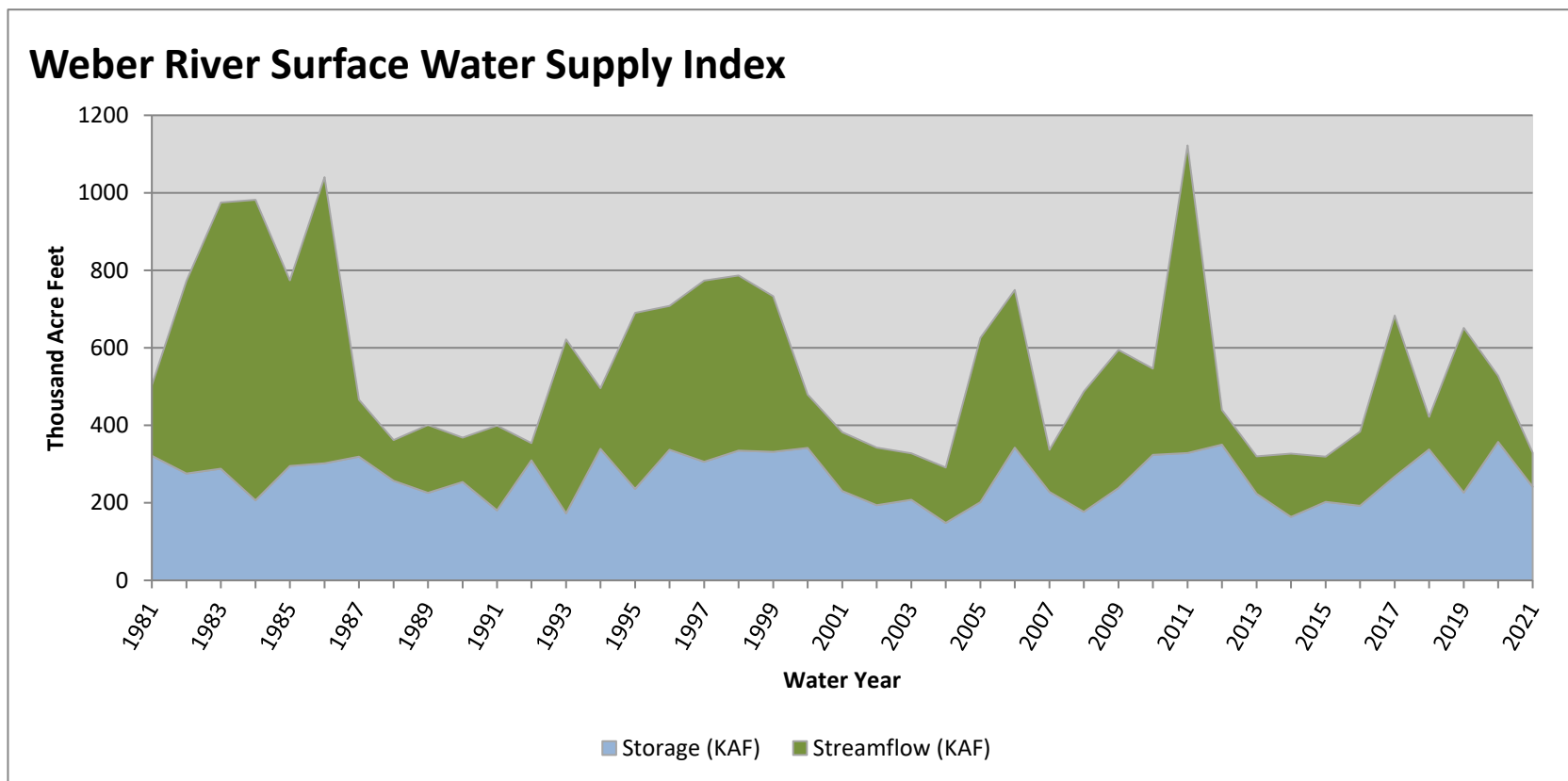


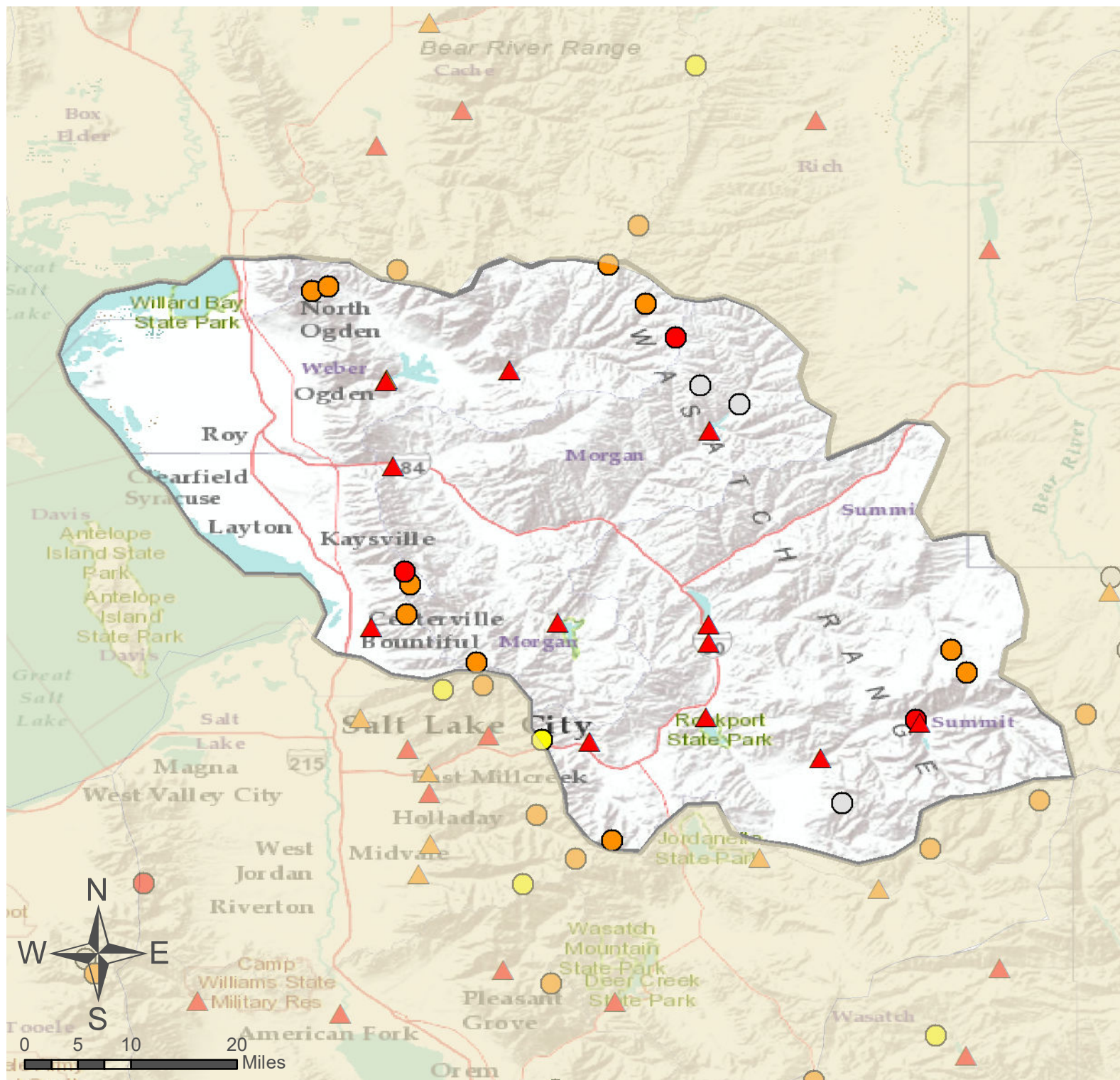
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Surface Water Supply Index

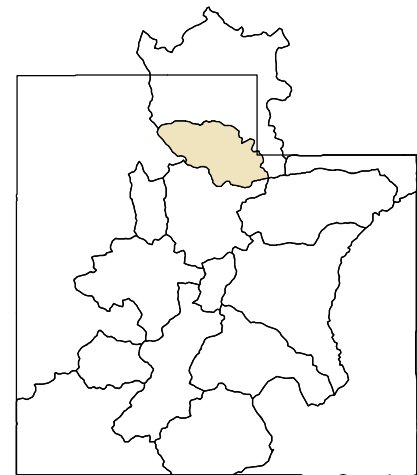
Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Weber River	241.60	88.00	329.60	14	-2.98	14, 03, 07, 02

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.





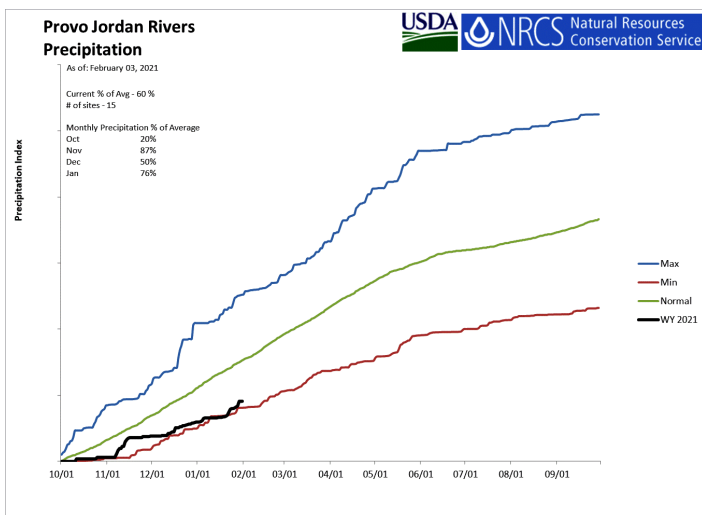
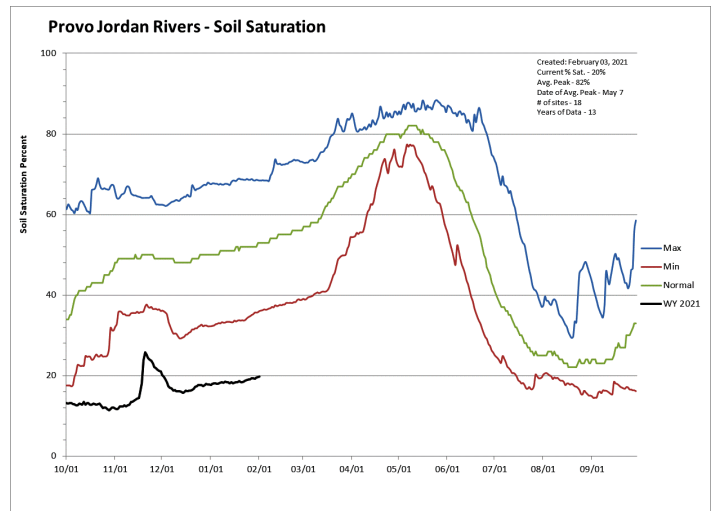
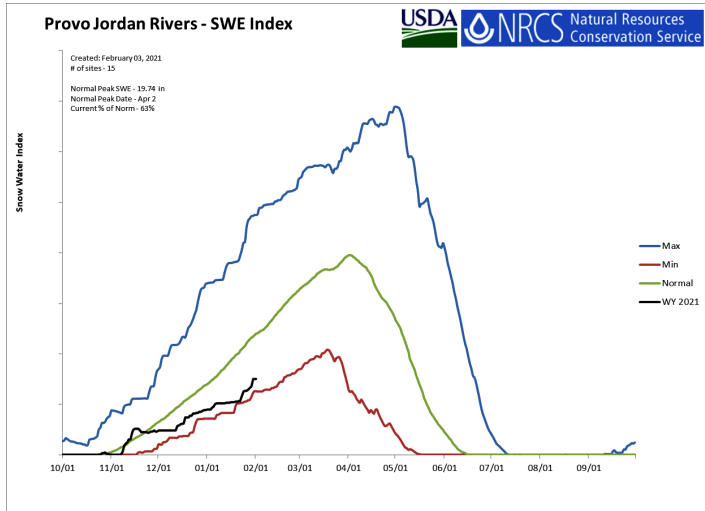
Weber & Ogden River Basins



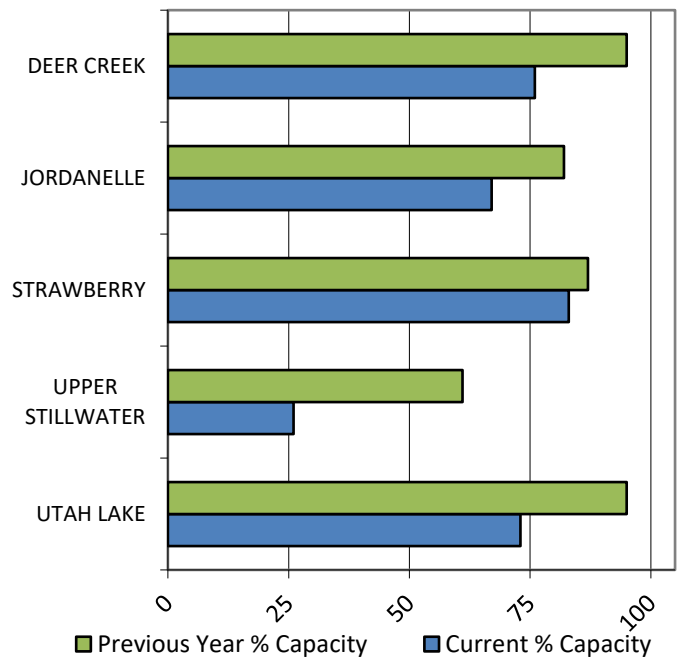
Provo & Jordan River Basins

February 1, 2021

Snowpack in the Provo & Jordan River Basins is much below normal at 63% of normal, compared to 112% last year. Precipitation in January was below average at 76%, which brings the seasonal accumulation (Oct-Jan) to 60% of average. Soil moisture is at 20% compared to 43% last year. Reservoir storage is at 77% of capacity, compared to 90% last year. Forecast streamflow volumes range from 28% to 56% of average. The surface water supply index is 39% for the Provo River.



Reservoir Storage



Provo Jordan Rivers Streamflow Forecasts - February 1, 2021

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

Provo Jordan Rivers	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Provo R at Woodland	APR-JUL	26	42	55	55%	70	95	100
Provo R at Hailstone	APR-JUL	25	41	55	51%	70	96	108
Provo R bl Deer Ck Dam	APR-JUL	6.8	33	51	44%	69	95	116
Spanish Fk at Castilla	APR-JUL	2.1	11	26	38%	56	87	69
American Fk ab Upper Powerplant	APR-JUL	0.64	2.6	9	28%	15.4	25	32
Utah Lake Inflow	APR-JUL	0	29	80	30%	280	430	265
W Canyon Ck nr Cedar Fort	APR-JUL	0.04	0.17	0.7	40%	1.23	2	1.76
Little Cottonwood Ck nr SLC	APR-JUL	14.5	18.2	21	55%	24	29	38
Big Cottonwood Ck nr SLC	APR-JUL	7	14.7	20	56%	25	33	36
Mill Ck nr SLC	APR-JUL	0.51	1.15	2.7	42%	4.2	6.5	6.4
Parleys Ck nr SLC	APR-JUL	0.43	3.2	7.1	50%	10.9	16.5	14.2
Dell Fk nr SLC	APR-JUL	0.11	0.66	2.1	38%	4.6	6.8	5.5
Emigration Ck nr SLC	APR-JUL	0.12	0.6	1.7	43%	3.1	5.3	4
City Ck nr SLC	APR-JUL	0.39	2.4	4.3	56%	6.2	9	7.7
Salt Ck at Nephi	APR-JUL	0.19	0.95	3.2	34%	6.4	11.5	9.5

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Deer Creek Reservoir	113.0	141.7	107.7	149.7
Strawberry Reservoir	920.0	959.2	658.4	1105.9
Utah Lake	637.1	827.0	752.5	870.9
Jordanelle Reservoir	213.7	263.5	242.0	314.0
Basin-wide Total	1883.8	2191.5	1760.6	2440.5
# of reservoirs	4	4	4	4

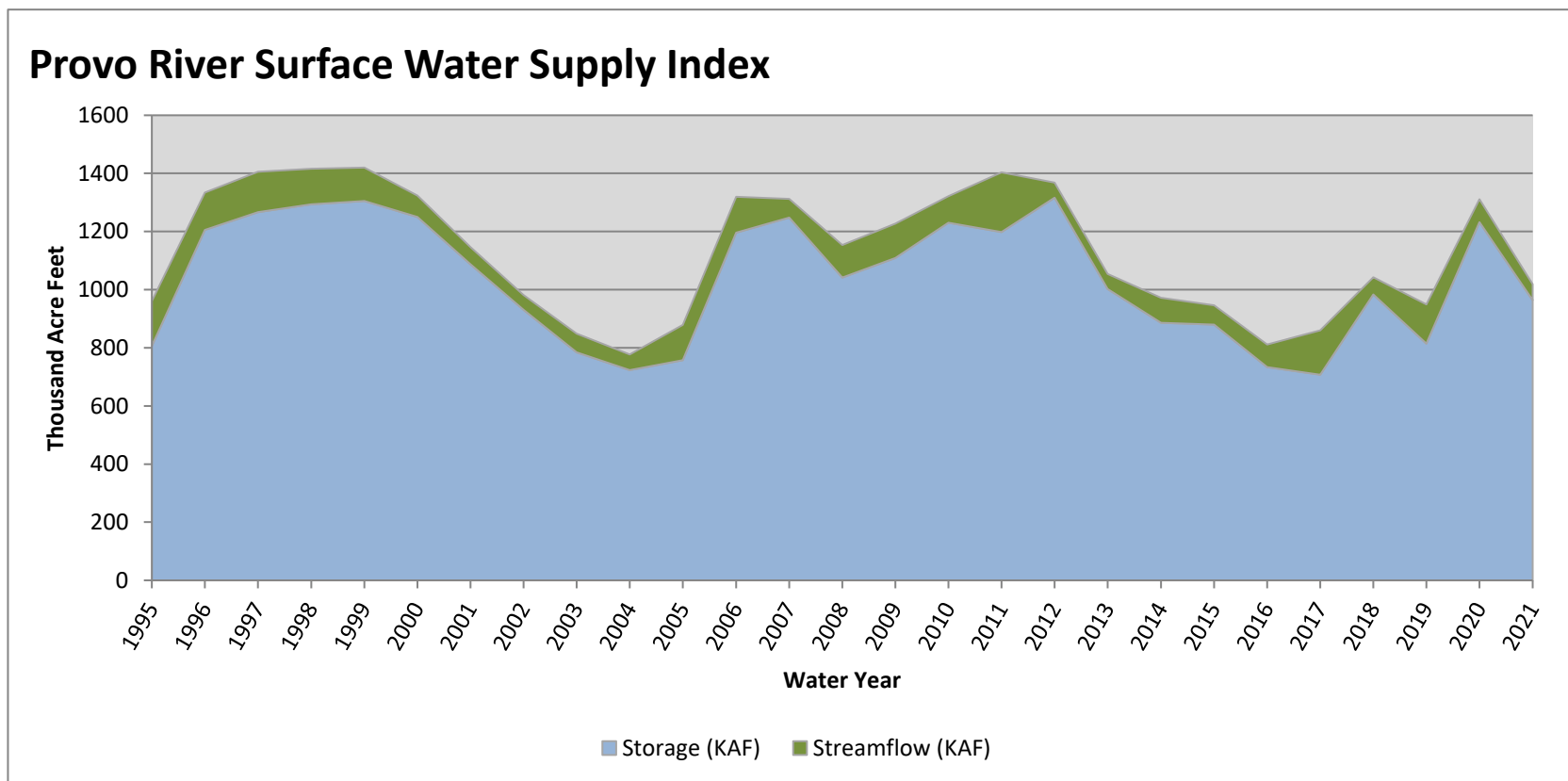
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Provo River	6	63%	102%
Jordan River	9	66%	121%
Utah Lake	12	63%	105%
Spanish Fork River	5	58%	95%
Six Creeks	8	67%	117%
Cottonwood Creeks	4	65%	120%

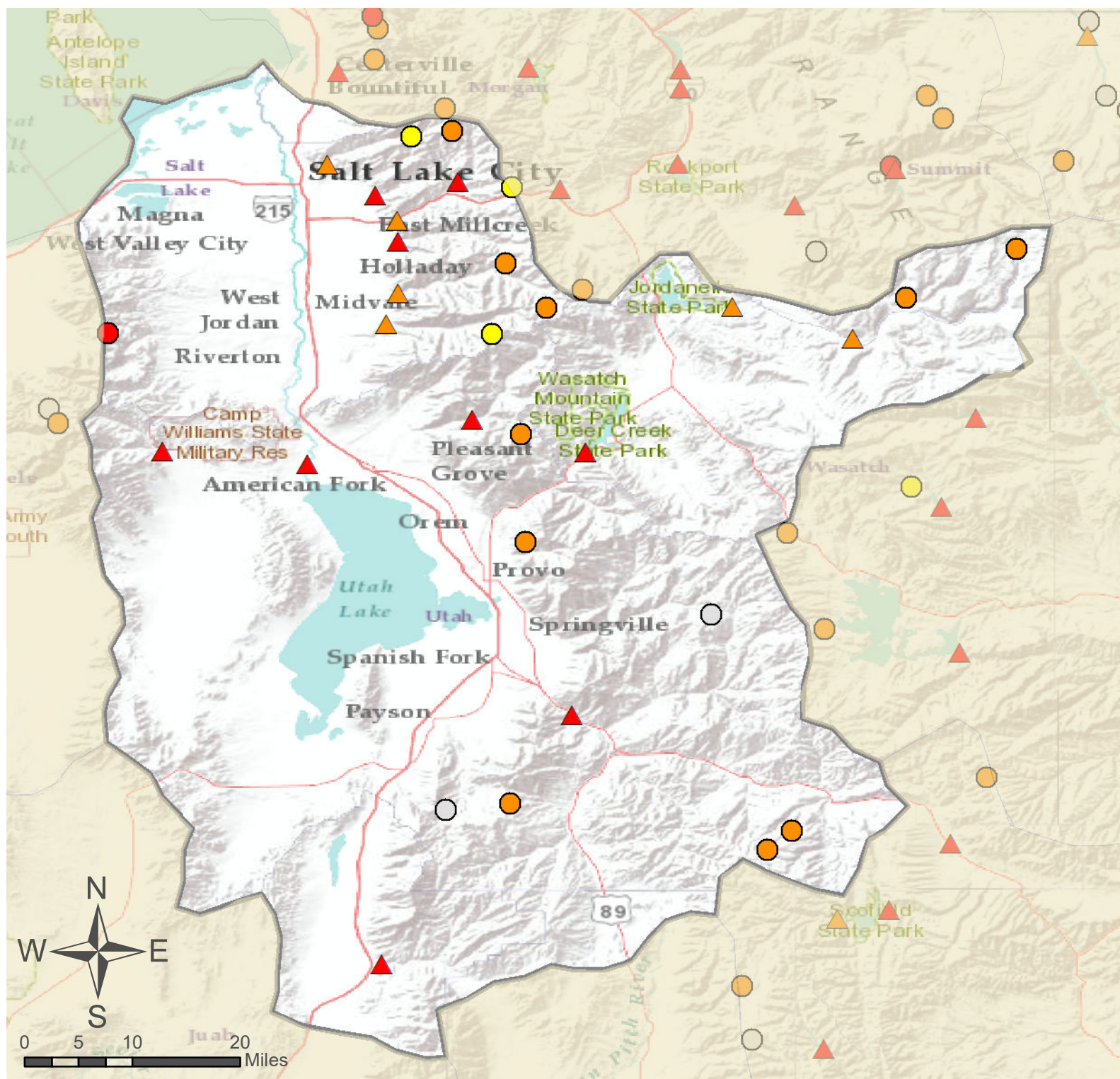
February 1, 2021

Surface Water Supply Index

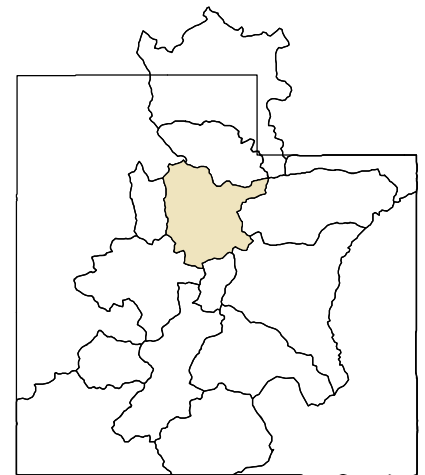
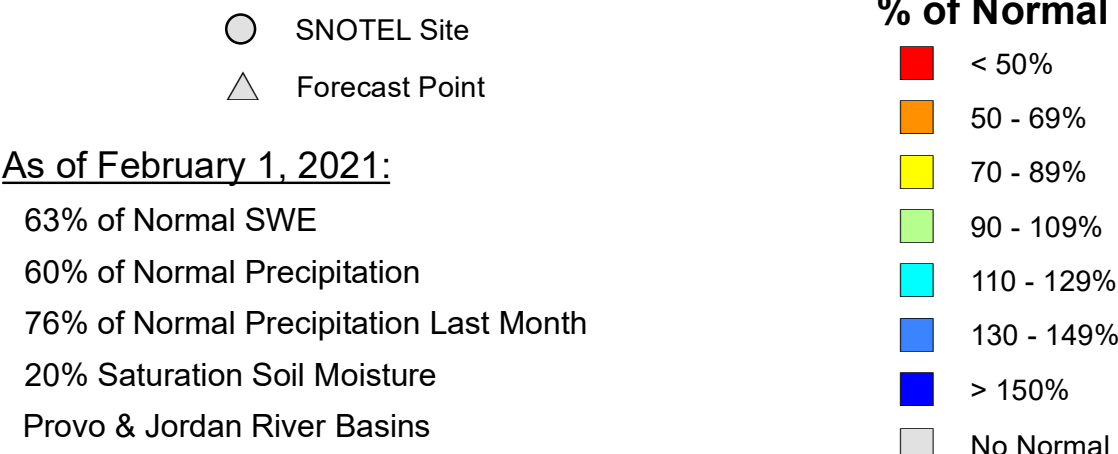
Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Provo River	963.79	55.00	1018.79	39	-0.89	14, 02, 18, 13

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.





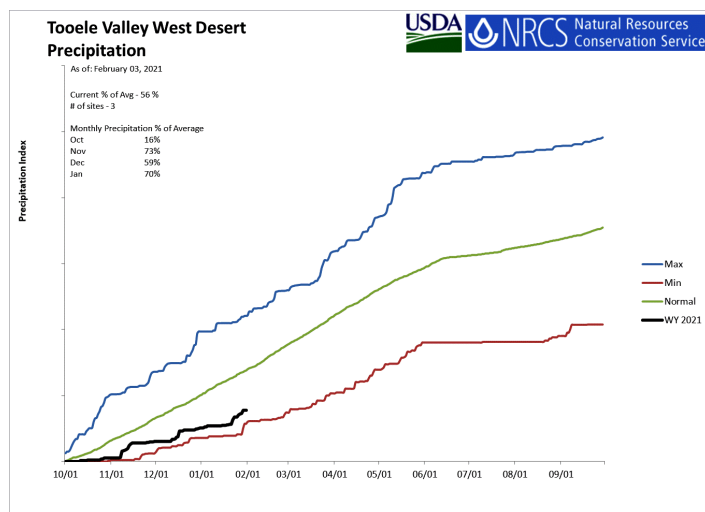
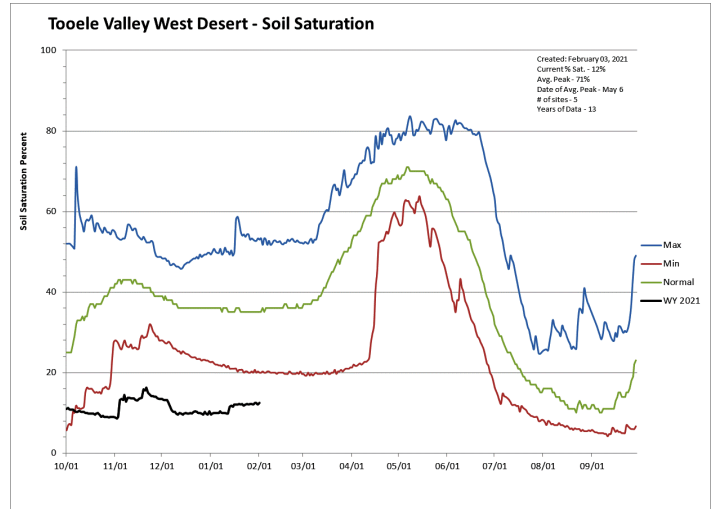
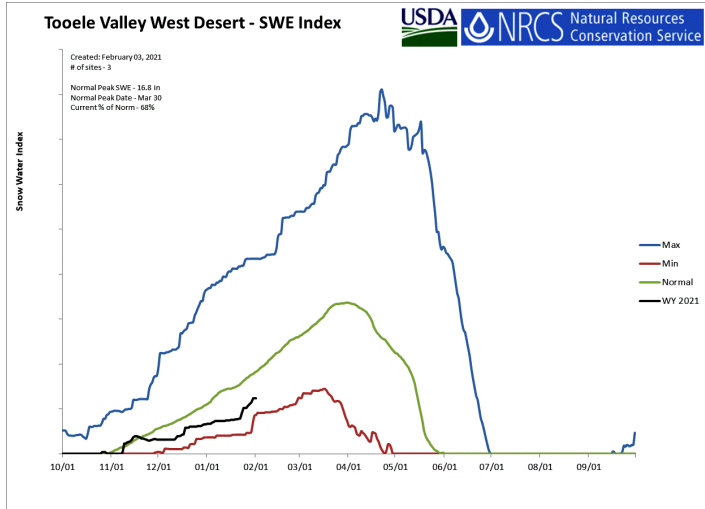
Provo & Jordan River Basins



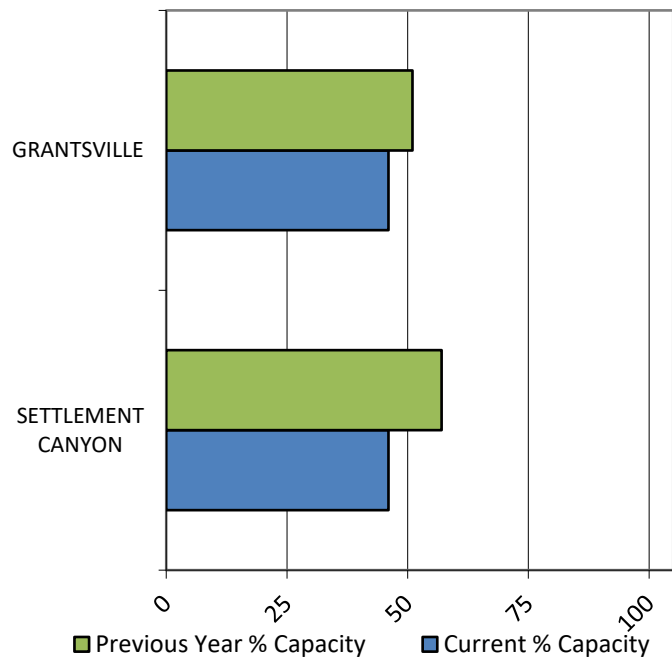
Tooele Valley & West Desert Basins

February 1, 2021

Snowpack in the Tooele Valley & West Desert Basins is much below normal at 68% of normal, compared to 132% last year. Precipitation in January was below average at 70%, which brings the seasonal accumulation (Oct-Jan) to 56% of average. Soil moisture is at 13% compared to 22% last year. Reservoir storage is at 46% of capacity, compared to 53% last year. Forecast streamflow volumes range from 43% to 65% of average.



Reservoir Storage



Tooele Valley West Desert Streamflow Forecasts - February 1, 2021

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

Tooele Valley West Desert	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Vernon Ck nr Vernon	APR-JUL	0.04	0.18	0.6	43%	1.23	1.68	1.39
S Willow Ck nr Grantsville	APR-JUL	0.16	1.26	2	65%	2.7	3.8	3.1
Dunn Ck nr Park Valley	APR-JUL	0.09	0.61	1.3	45%	1.99	3	2.9
W Canyon Ck nr Cedar Fort	APR-JUL	0.04	0.17	0.7	40%	1.23	2	1.76

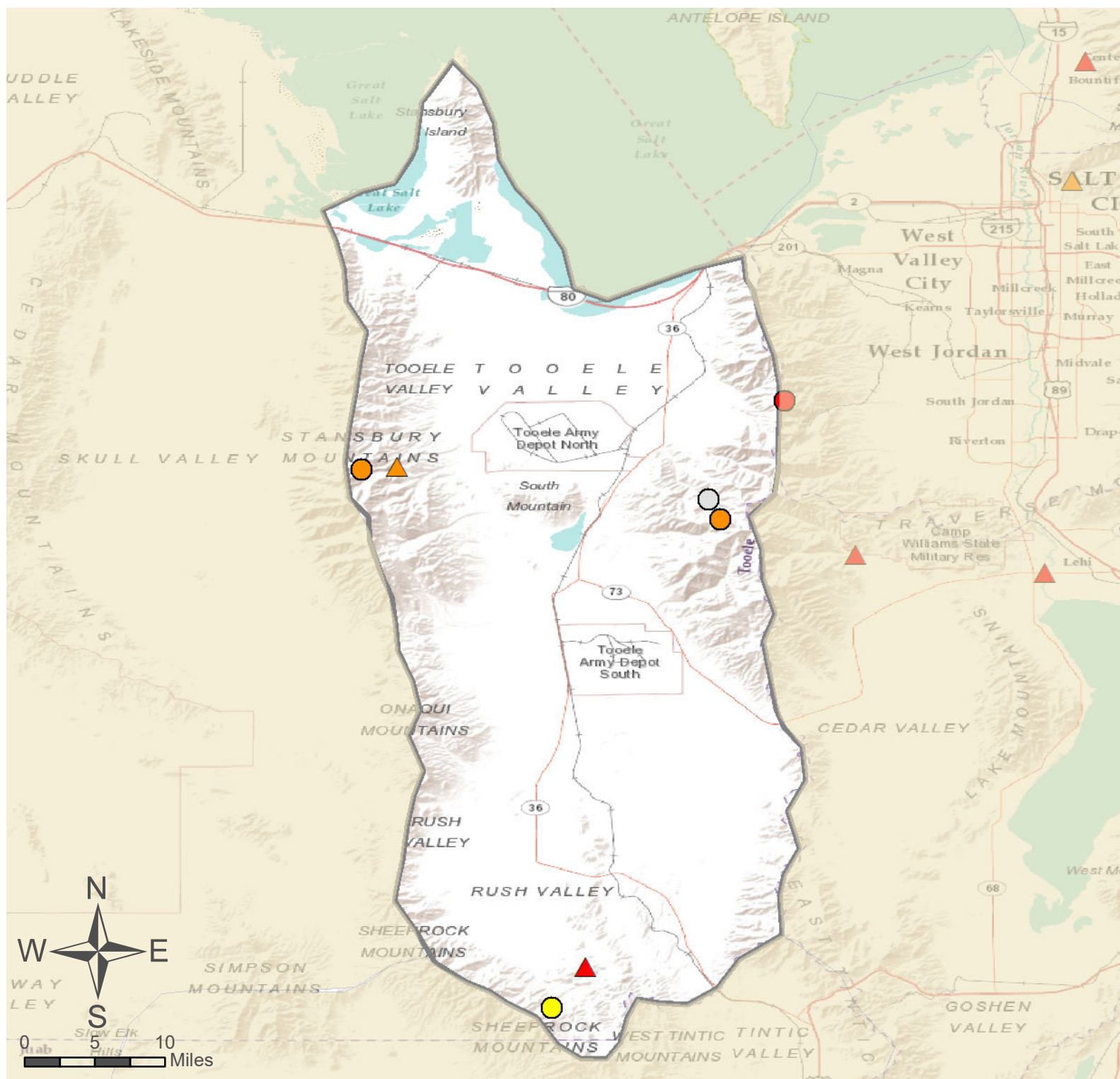
1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Settlement Canyon Reservoir	0.5	0.6	0.7	1.0
Grantsville Reservoir	1.5	1.7	1.8	3.3
Basin-wide Total	2.0	2.3	2.5	4.3
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Tooele Valley	3	59%	151%
Raft River	1	78%	122%
Deep Creek	0		
Northwestern Utah	2	70%	128%



Tooele Valley & West Desert Basins

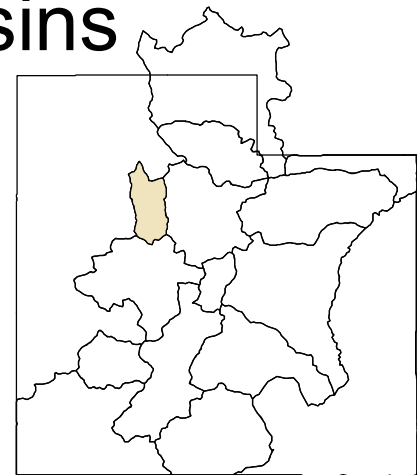
- SNOTEL Site
- △ Forecast Point

As of February 1, 2021:

68% of Normal SWE
 56% of Normal Precipitation
 70% of Normal Precipitation Last Month
 13% Saturation Soil Moisture
 Tooele Valley & West Desert Basins

% of Normal

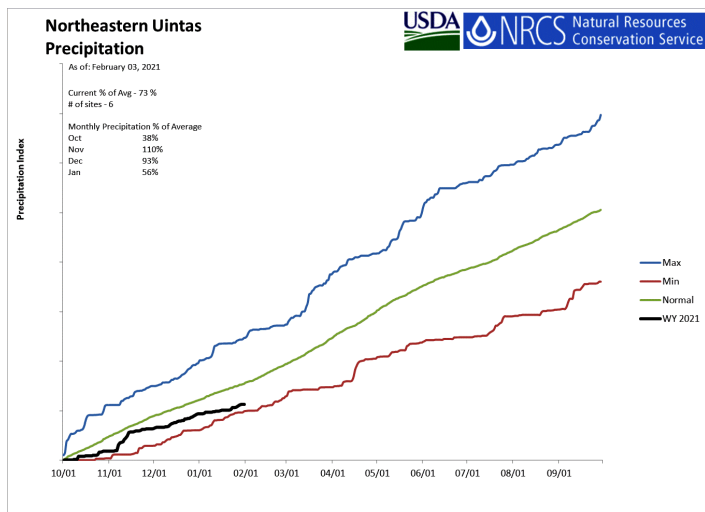
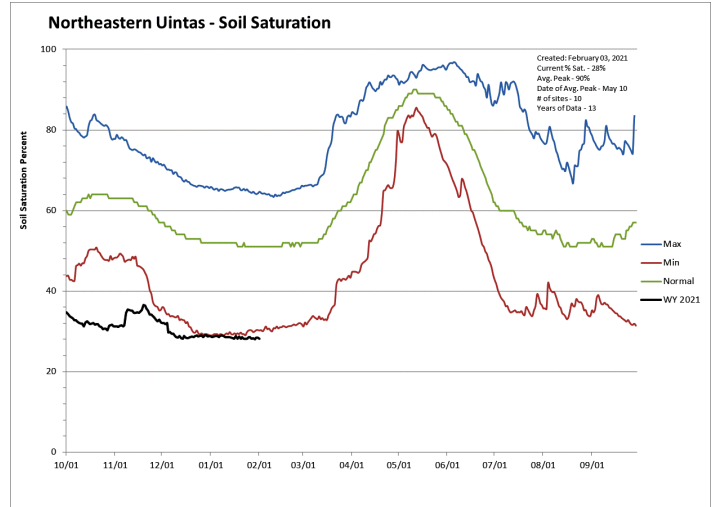
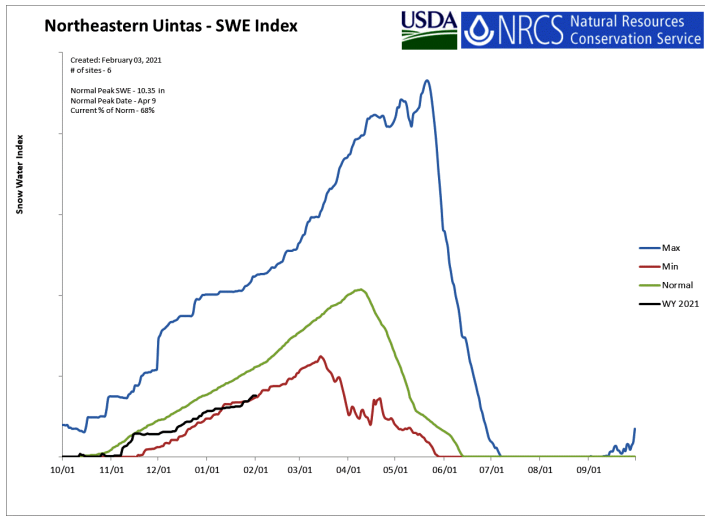
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



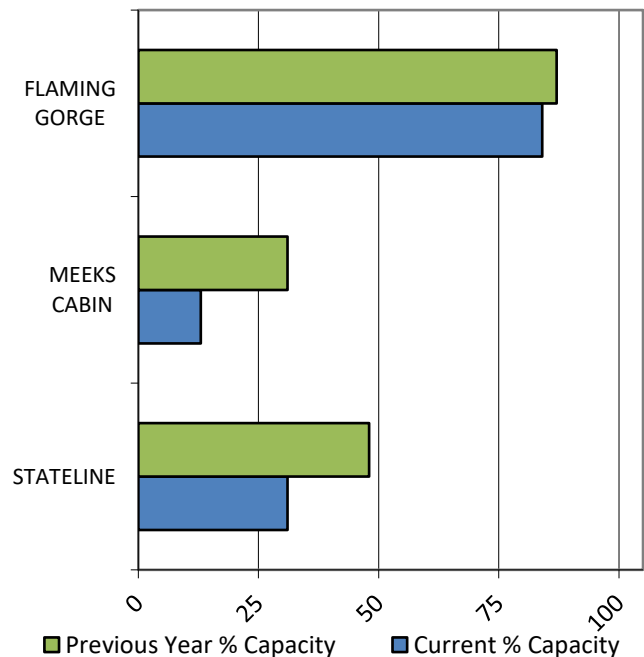
Northeastern Uinta Basin

February 1, 2021

Snowpack in the Northeastern Uinta Basin is much below normal at 68% of normal, compared to 144% last year. Precipitation in January was much below average at 57%, which brings the seasonal accumulation (Oct-Jan) to 73% of average. Soil moisture is at 26% compared to 44% last year. Reservoir storage is at 83% of capacity, compared to 87% last year. Forecast streamflow volumes range from 49% to 63% of average. The surface water supply index is 5% for the Blacks Fork, 13% for the Smiths Creek.



Reservoir Storage



Northeastern Uintas Streamflow Forecasts - February 1, 2021

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

Northeastern Uintas	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Blacks Fk nr Robertson	APR-JUL	30	44	54	63%	66	85	86
EF of Smiths Fork nr Robertson ²	APR-JUL	8.7	12.8	16	59%	19.6	25	27
Flaming Gorge Reservoir Inflow ²	APR-JUL	194	350	480	49%	630	895	980
Ashley Ck nr Vernal	APR-JUL	12.7	21	28	56%	36	49	50
Big Brush Ck ab Red Fleet Reservoir	APR-JUL	3.4	8.8	12.5	60%	16.2	22	21

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Flaming Gorge Reservoir	3151.0	3273.6	3049.0	3749.0
Stateline Reservoir	3.7	5.8	5.4	12.0
Meeks Cabin Reservoir	4.2	10.1	11.9	32.5
Basin-wide Total	3158.9	3289.5	3066.3	3793.5
# of reservoirs	3	3	3	3

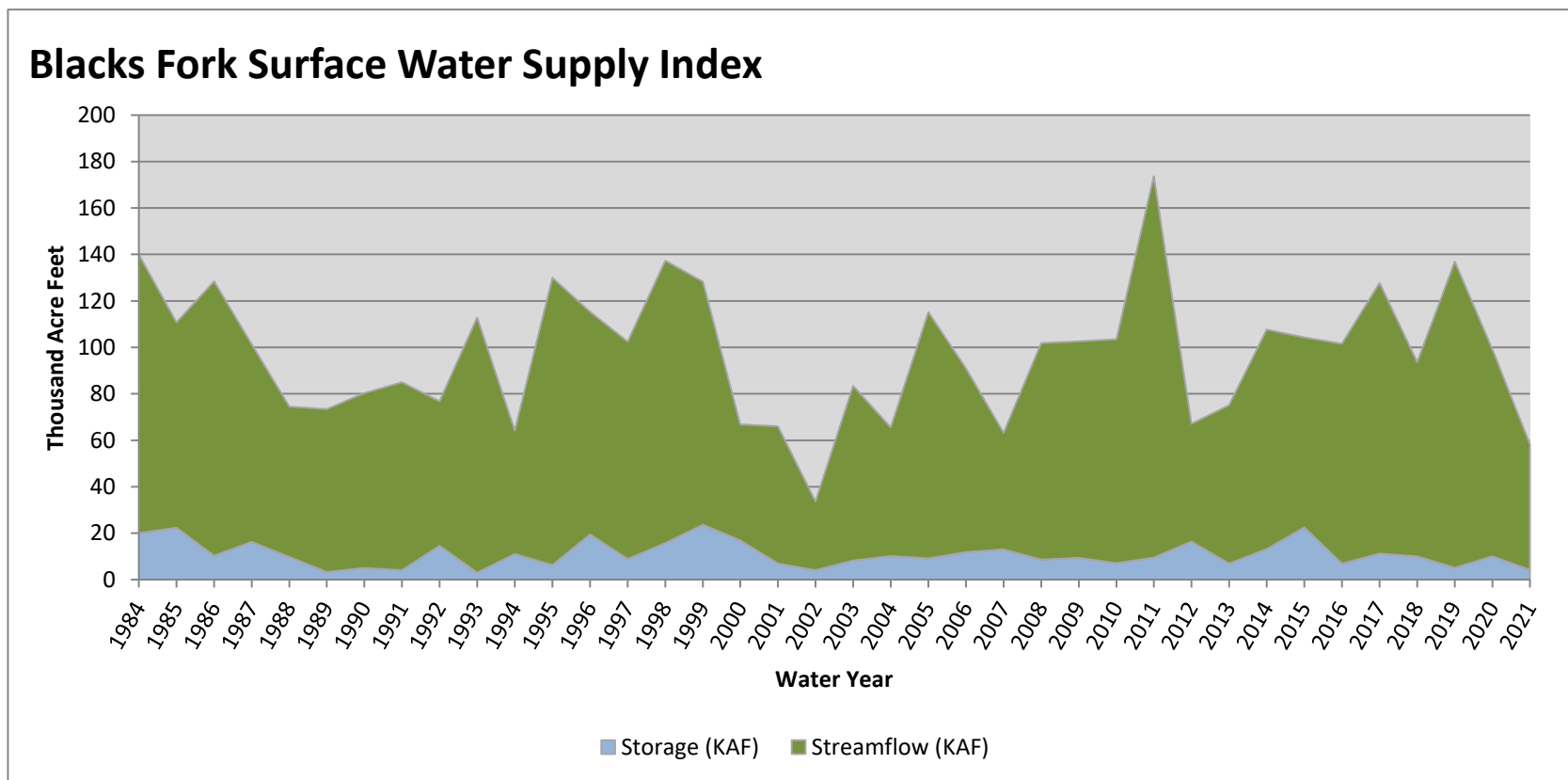
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Blacks Fork River	3	72%	128%
Upper Green	2	81%	192%
Ashley Brush Creeks	4	61%	125%

February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Blacks Fork	4.21	54.00	58.21	5	-3.74	02, 07, 94, 04

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

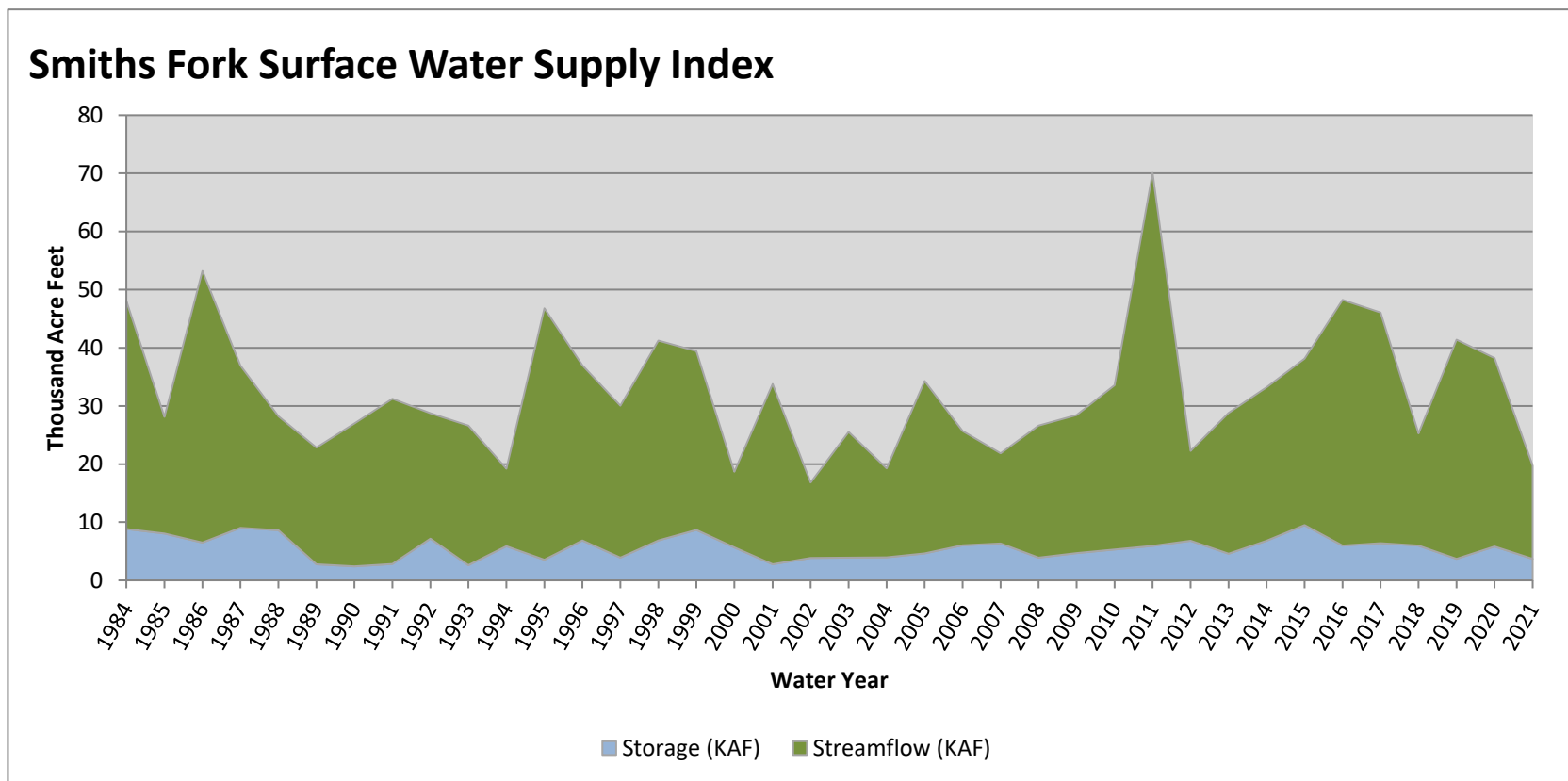


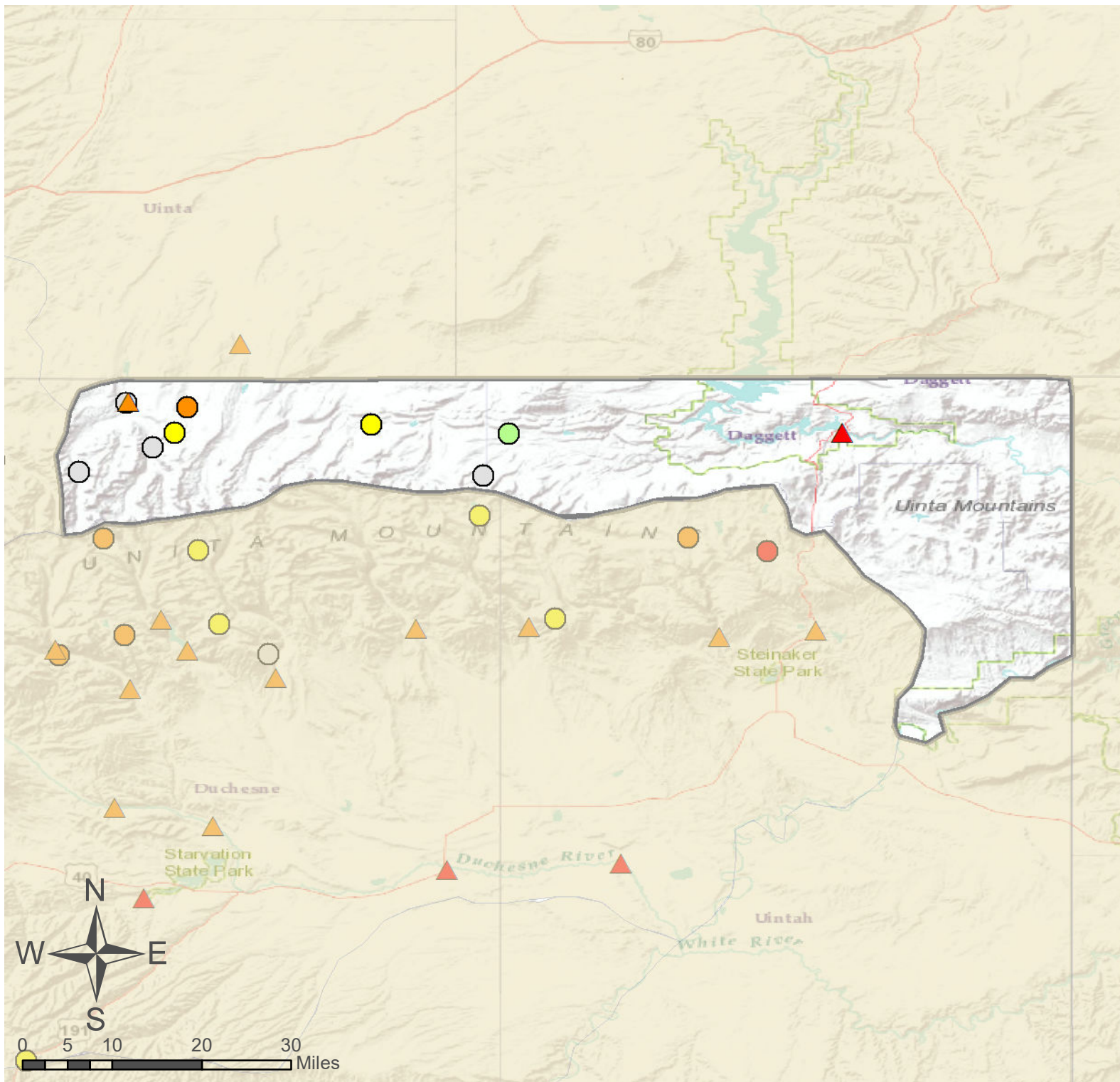
February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Smiths Fork	3.71	16.00	19.71	13	-3.1	94, 04, 07, 12

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.





Northeastern Uinta Basin

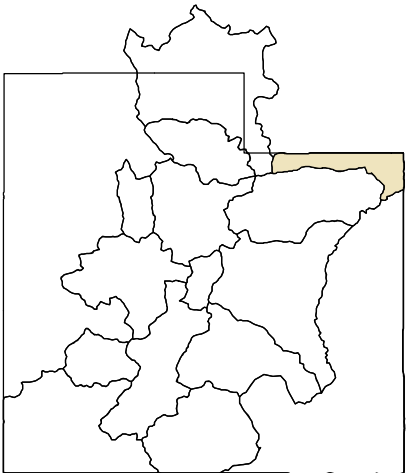
- SNOTEL Site
- △ Forecast Point

As of February 1, 2021:

68% of Normal SWE
 73% of Normal Precipitation
 57% of Normal Precipitation Last Month
 26% Saturation Soil Moisture
 Northeastern Uinta Basin

% of Normal

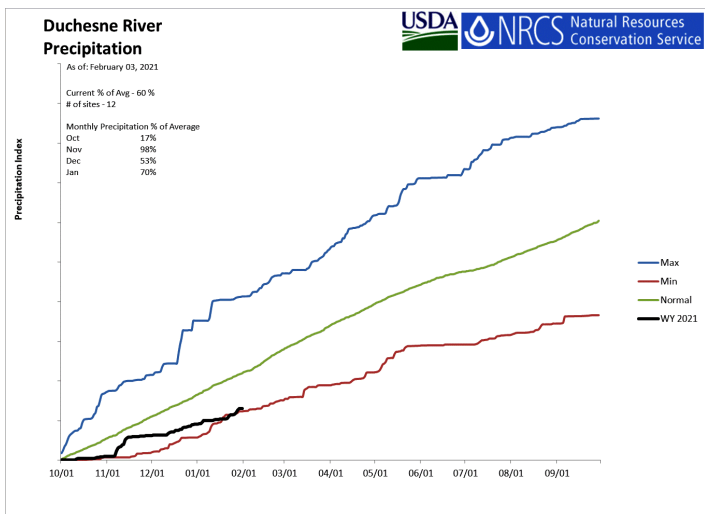
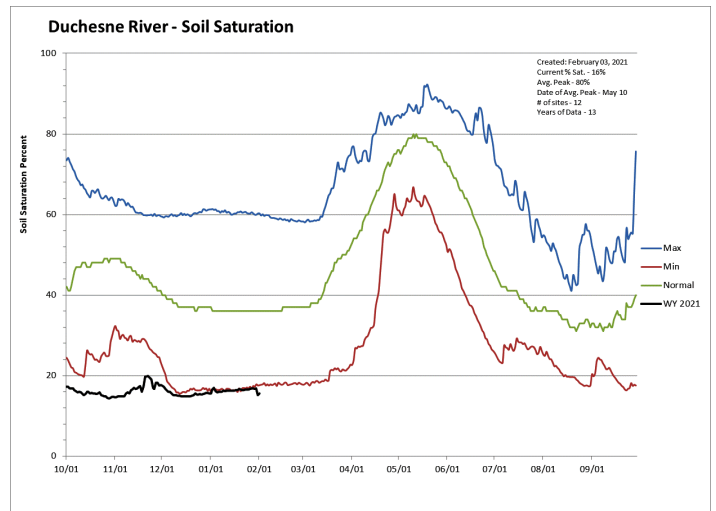
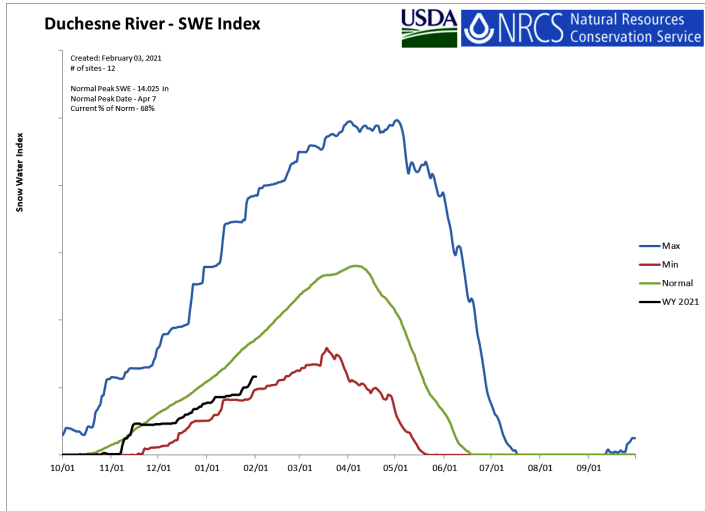
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



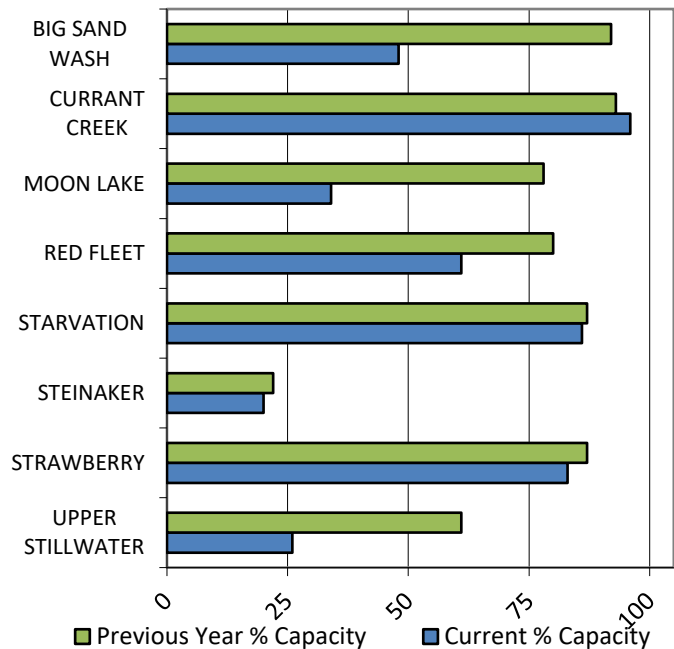
Duchesne River Basin

February 1, 2021

Snowpack in the Duchesne River Basin is much below average at 68% of normal, compared to 121% last year. Precipitation in January was below average at 70%, which brings the seasonal accumulation (Oct-Jan) to 60% of average. Soil moisture is at 16% compared to 34% last year. Reservoir storage is at 79% of capacity, compared to 84% last year. Forecast streamflow volumes range from 29% to 60% of average. The surface water supply index is 19% for the Western Uintas, 10% for the Eastern Uintas.



Reservoir Storage



Duchesne River Streamflow Forecasts - February 1, 2021

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

Duchesne River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
WF Duchesne R at VAT Diversion	APR-JUL	3.6	6	8	43%	10.3	14.2	18.6
Duchesne R nr Tabiona ²	APR-JUL	32	47	58	54%	71	92	108
Upper Stillwater Reservoir Inflow ²	APR-JUL	24	33	40	54%	48	61	74
Rock Ck nr Mountain Home ²	APR-JUL	29	40	48	55%	57	72	88
Duchesne R ab Knight Diversion ²	APR-JUL	60	85	104	53%	125	160	195
Currant Ck Reservoir Inflow ²	APR-JUL	2.8	5.6	8	40%	10.8	15.8	20
Strawberry R nr Soldier Springs ²	APR-JUL	8	12	20	34%	35	57	58
Strawberry R nr Duchesne ²	APR-JUL	13.4	30	45	40%	63	95	112
Lake Fork R ab Moon Lake Reservoir	APR-JUL	15.9	25	32	52%	40	54	61
Lake Fk R Bl Moon Lk nr Mountain Home ²	APR-JUL	19	27	34	52%	41	53	66
Yellowstone R nr Altonah	APR-JUL	17.5	26	33	54%	41	53	61
Duchesne R at Myton ²	APR-JUL	31	68	102	31%	143	215	330
Uinta R bl Powerplant Diversion nr Neola ²	APR-JUL	14.8	28	40	54%	54	77	74
Whiterocks R nr Whiterocks	APR-JUL	13.4	23	30	56%	39	53	54
Duchesne R nr Randlett ²	APR-JUL	16.1	62	111	29%	174	290	385
Ashley Ck nr Vernal	APR-JUL	12.7	21	28	56%	36	49	50
Big Brush Ck ab Red Fleet Reservoir	APR-JUL	3.4	8.8	12.5	60%	16.2	22	21

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Steinaker Reservoir	6.7	7.4	21.7	33.4
Red Fleet Reservoir	15.8	20.7	17.9	25.7
Big Sand Wash Reservoir	12.3	23.7		25.7
Upper Stillwater Reservoir	8.4	19.7	8.6	32.5
Starvation Reservoir	142.3	143.3	138.8	164.1
Moon Lake Reservoir	12.1	27.9	24.4	35.8
Currant Creek Reservoir	14.8	14.4	14.9	15.5
Strawberry Reservoir	920.0	959.2	658.4	1105.9
Basin-wide Total	1120.2	1192.5	884.7	1412.9
# of reservoirs	7	7	7	7

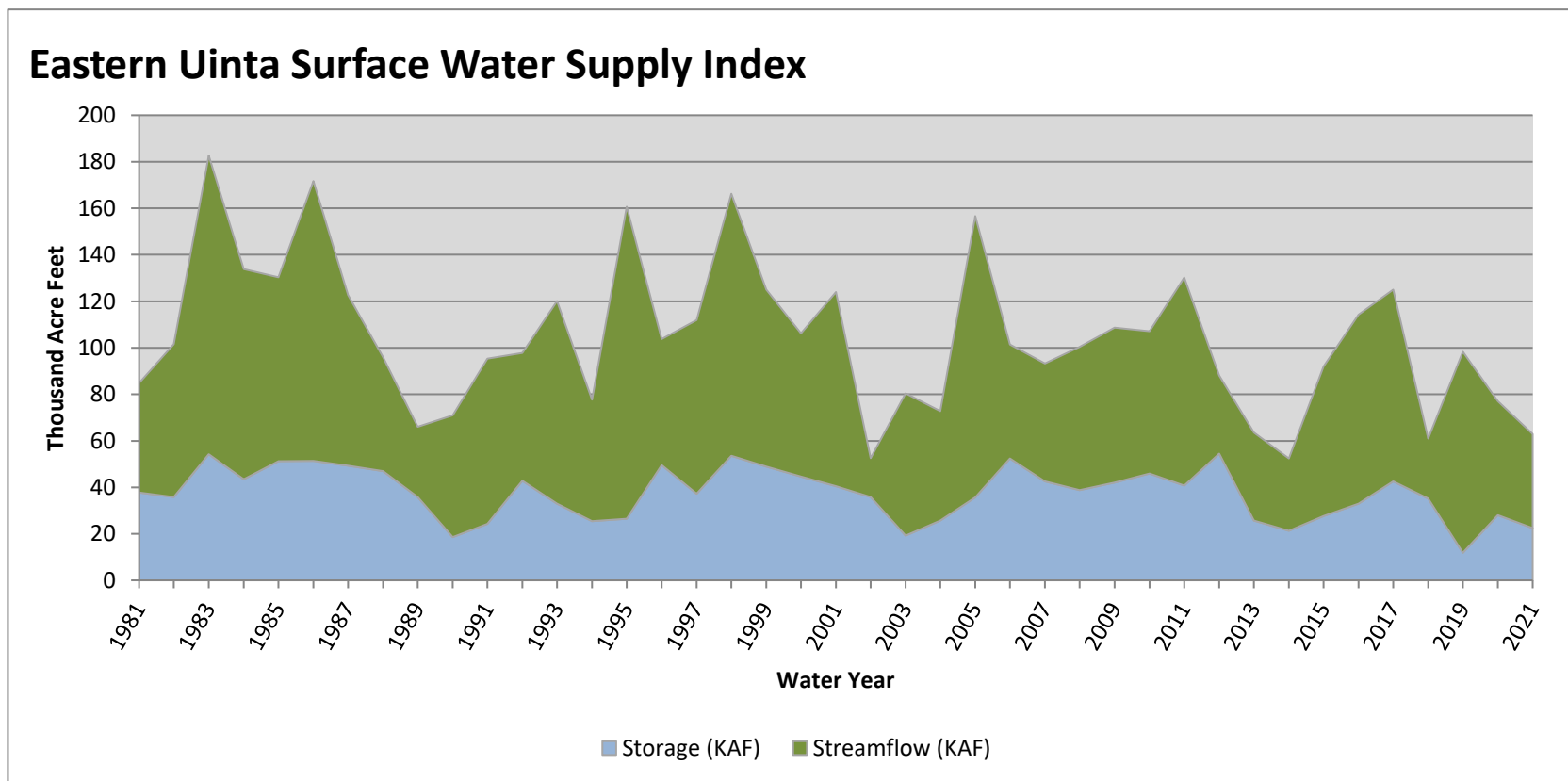
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Strawberry River	5	63%	114%
Lakefork Yellowstone Rivers	6	69%	125%
Uinta Whiterocks River	2	70%	125%

February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Eastern Uinta	22.47	40.50	62.97	10	-3.37	02, 18, 13, 89

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

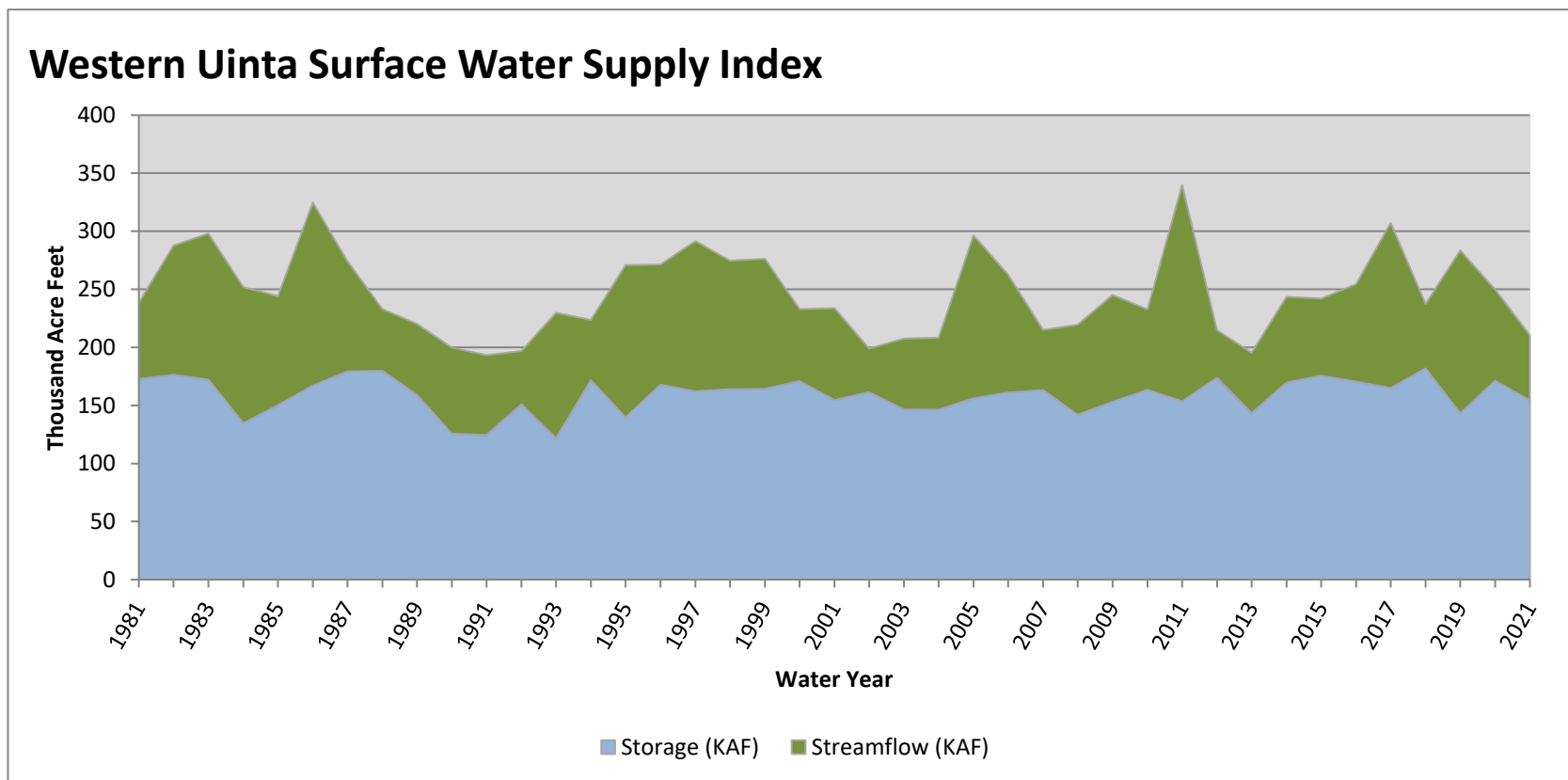


February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Western Uinta	154.44	56.00	210.44	19	-2.58	03, 04, 12, 07

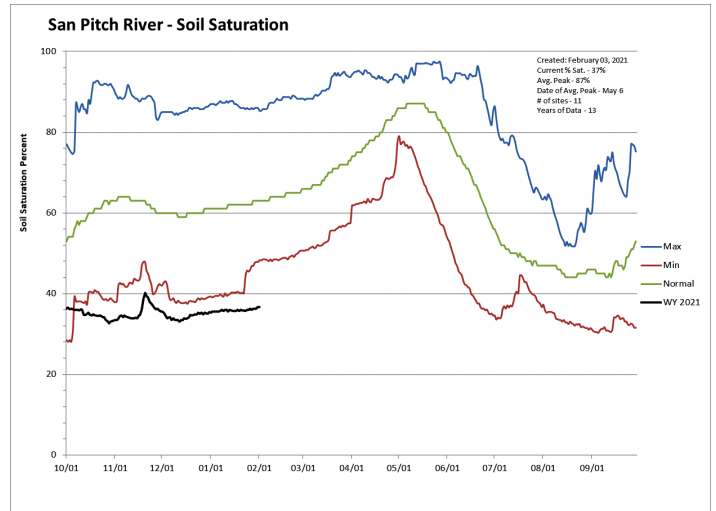
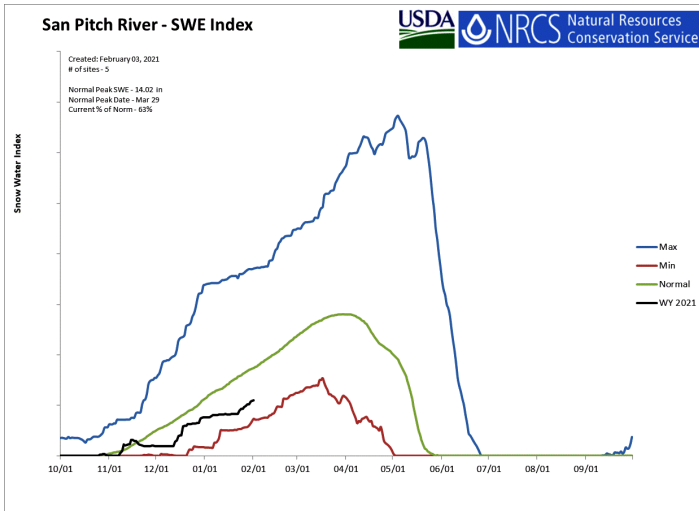
^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.



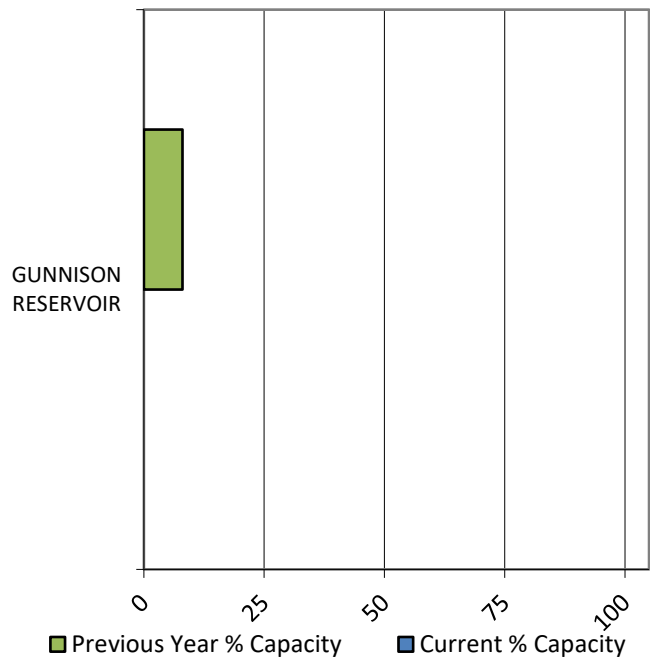
San Pitch River Basin

February 1, 2021

Snowpack in the San Pitch River Basin is much below normal at 63% of normal, compared to 114% last year. Precipitation in January was much below average at 46%, which brings the seasonal accumulation (Oct-Jan) to 55% of average. Soil moisture is at 37% compared to 54% last year. Reservoir storage is at 0% of capacity, compared to 8% last year. The forecast streamflow volume for Manti Creek is 66% of average. The surface water supply index is 14% for the San Pitch.



Reservoir Storage



San Pitch River
Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

San Pitch River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Manti Ck bl Dugway Ck nr Manti	APR-JUL	5.6	8.6	11	66%	13.6	18.1	16.7
Sevier R nr Gunnison	APR-JUL	14.9	46	68	69%	89	120	99

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Gunnison Reservoir	0.0	1.6	11.4	20.3
Basin-wide Total		1.6	11.4	20.3
# of reservoirs	1	1	1	1

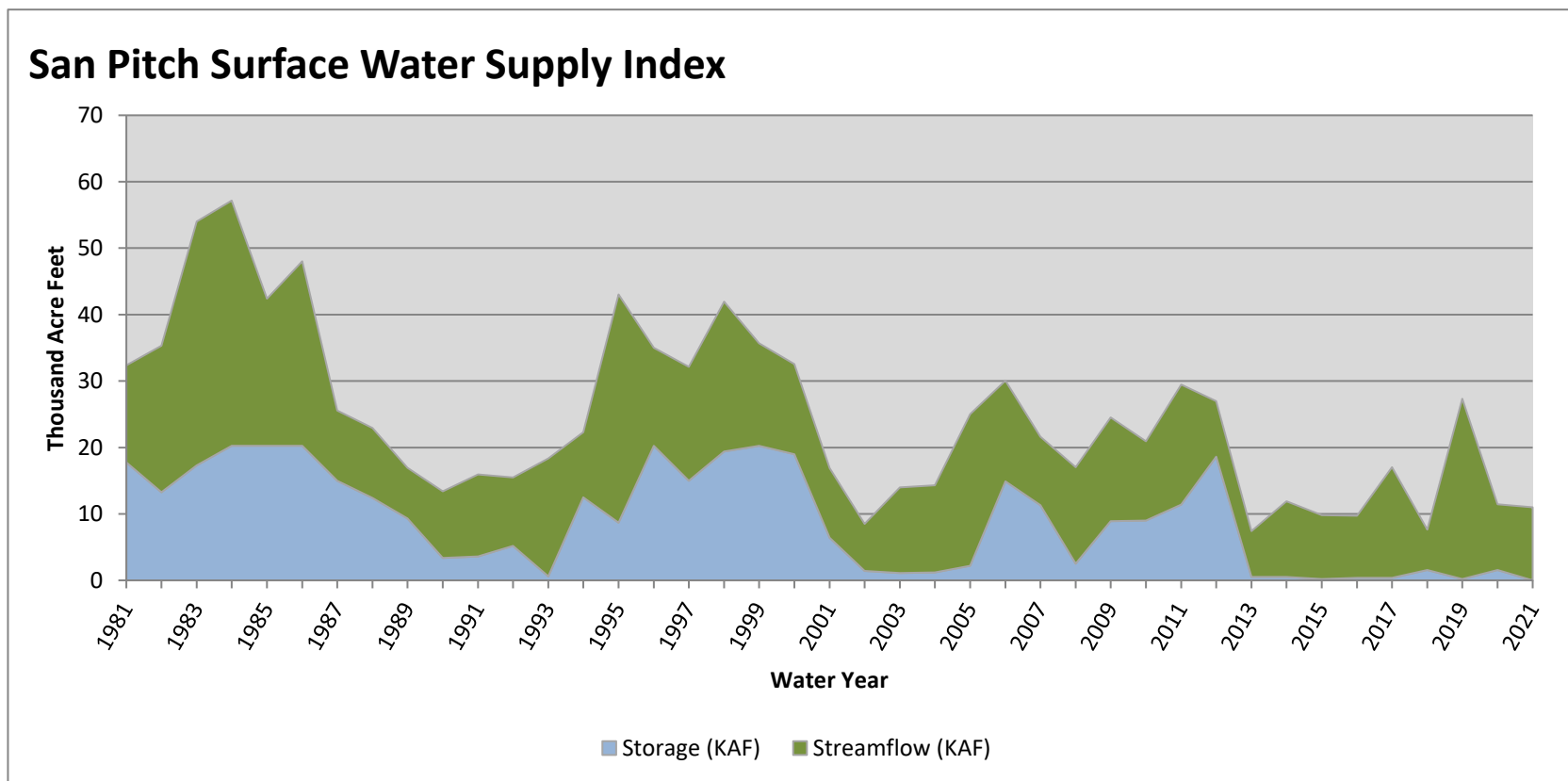
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Upper San Pitch	2	57%	112%
Lower San Pitch	5	64%	111%

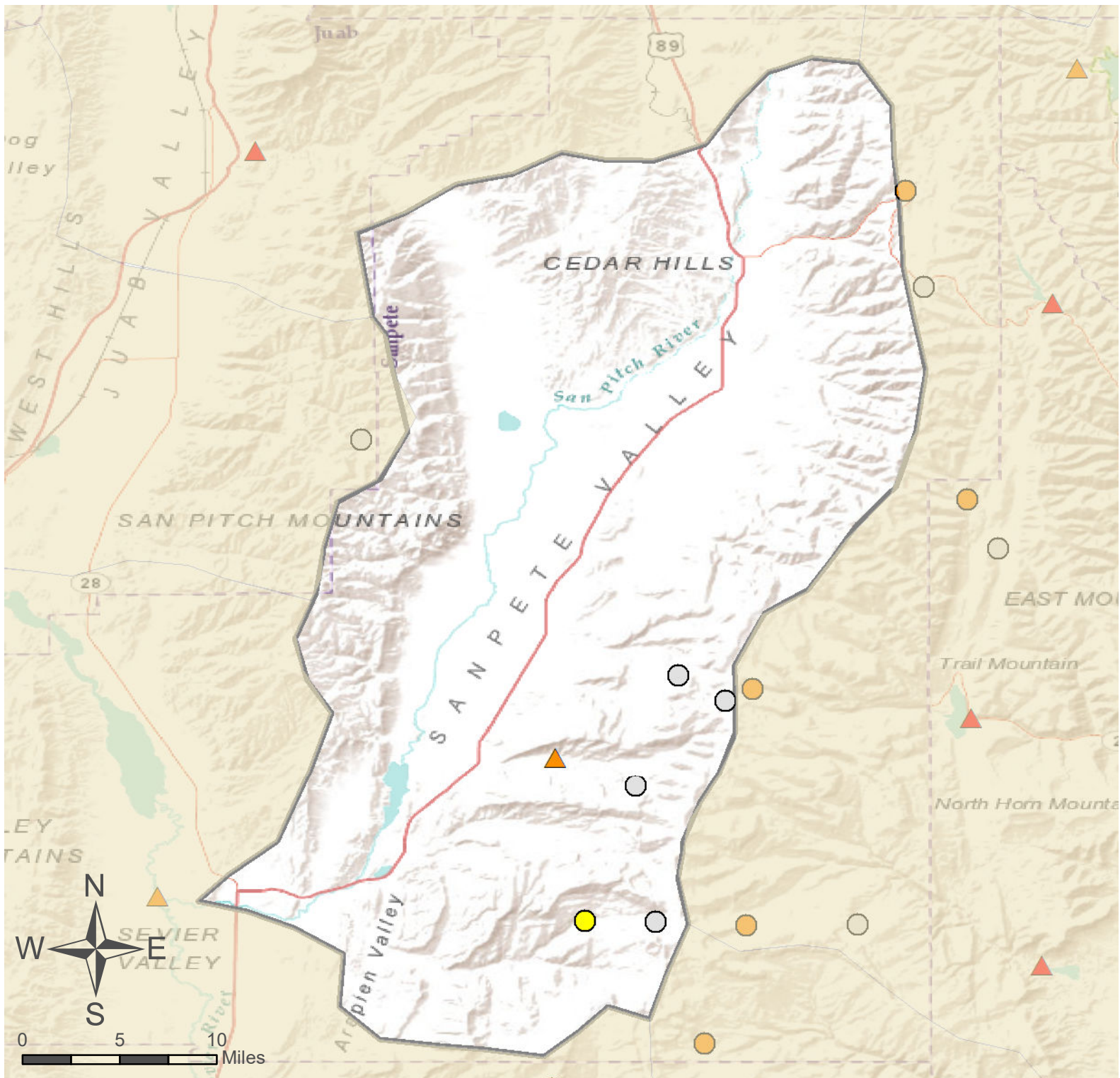
February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM* Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI#	Years with similiar SWSI
	KAF^	KAF^	KAF^	%		
San Pitch	0.00	11.00	11.00	14	-2.98	16, 15, 20, 14

*EOM, end of month; #SWSI, Surface Water Supply Index; ^KAF, thousand acre-feet.





San Pitch River Basin

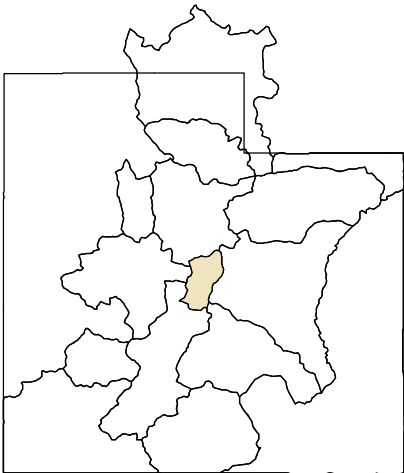
- SNOTEL Site
- △ Forecast Point

As of February 1, 2021:

63% of Normal SWE
 55% of Normal Precipitation
 46% of Normal Precipitation Last Month
 37% Saturation Soil Moisture
 San Pitch River Basin

% of Normal

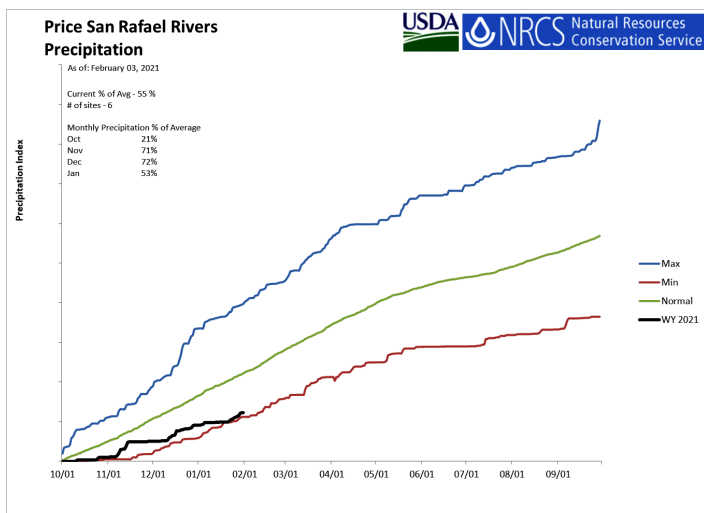
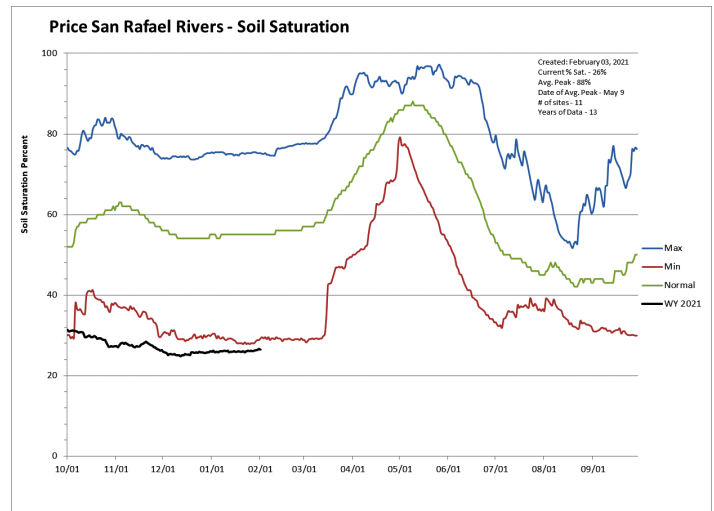
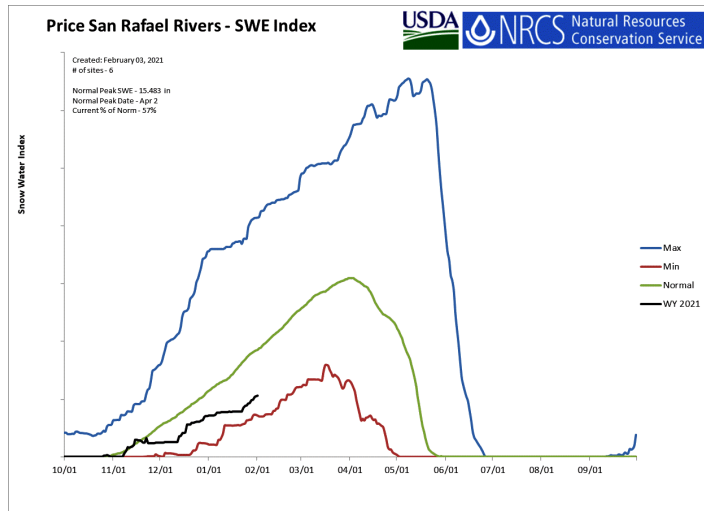
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



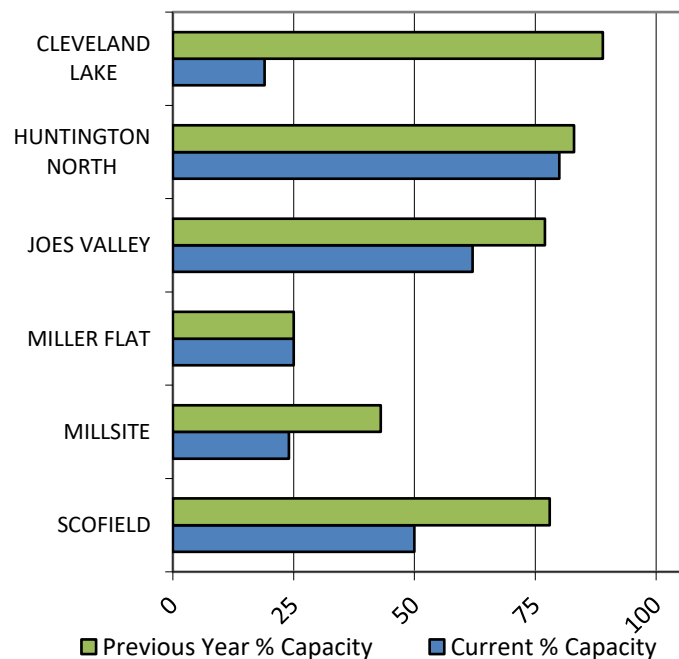
Price & San Rafael Basins

February 1, 2021

Snowpack in the Price & San Rafael Basins is much below normal at 57% of normal, compared to 110% last year. Precipitation in January was much below average at 53%, which brings the seasonal accumulation (Oct-Jan) to 55% of average. Soil moisture is at 26% compared to 39% last year. Reservoir storage is at 53% of capacity, compared to 74% last year. Forecast streamflow volumes range from 37% to 50% of average. The surface water supply index is 31% for the Price River, 10% for Joe's Valley, 5% for Ferron Creek.



Reservoir Storage



Price San Rafael Rivers Streamflow Forecasts - February 1, 2021

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

Price San Rafael Rivers	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Fish Ck ab Reservoir nr Scofield	APR-JUL	6.3	11	15	50%	19.6	27	30
Price R nr Scofield Reservoir ²	APR-JUL	5.6	12.1	18	44%	25	37	41
White R bl Tabbyune Creek	APR-JUL	1.99	4	5.8	37%	7.9	11.6	15.5
Green R at Green River, UT ²	APR-JUL	635	1030	1350	46%	1710	2320	2960
Electric Lake Inflow ²	APR-JUL	1.69	3.4	5	38%	6.8	10.1	13.3
Huntington Ck nr Huntington ²	APR-JUL	9.1	14.7	19.2	48%	24	33	40
Joes Valley Reservoir Inflow ²	APR-JUL	12.5	19.4	25	45%	31	42	56
Ferron Ck (Upper Station) nr Ferron	APR-JUL	9.8	13.8	17	45%	20	26	38

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Joes Valley Reservoir	38.4	47.3	39.9	61.6
Millsite	4.0	7.2	10.1	16.7
Huntington North Reservoir	3.4	3.5	2.7	4.2
Cleveland Lake	1.0	4.8		5.4
Miller Flat Reservoir	1.3	1.3		5.2
Scofield Reservoir	32.8	51.5	29.9	65.8
Basin-wide Total	78.6	109.5	82.6	148.3
# of reservoirs	4	4	4	4

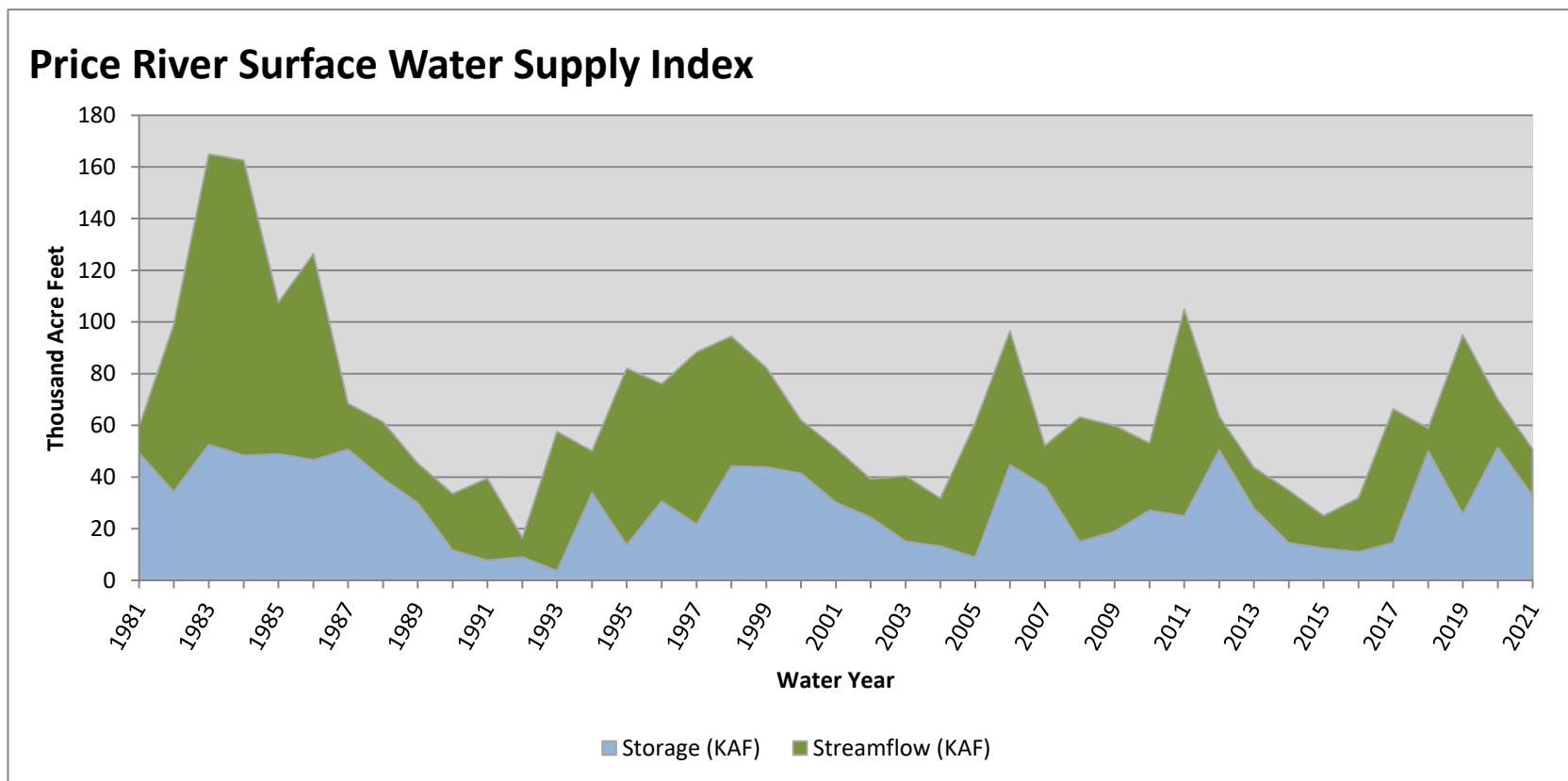
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Price River	4	61%	114%
San Rafael	4	58%	113%

February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Price River	32.80	18.00	50.80	31	-1.59	89, 94, 01, 07

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

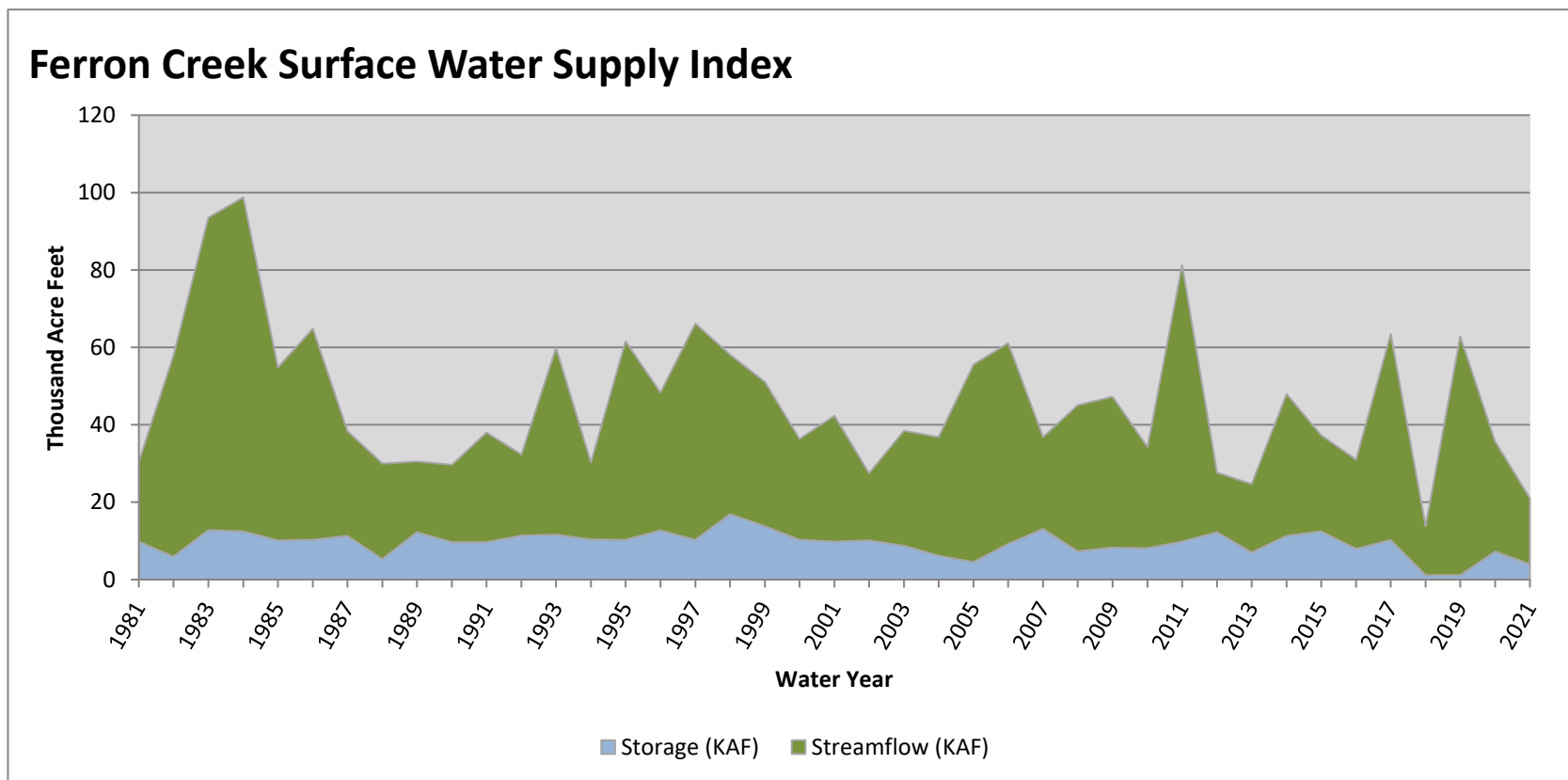


February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Ferron Creek	4.01	17.00	21.01	5	-3.77	18, 13, 02, 12

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

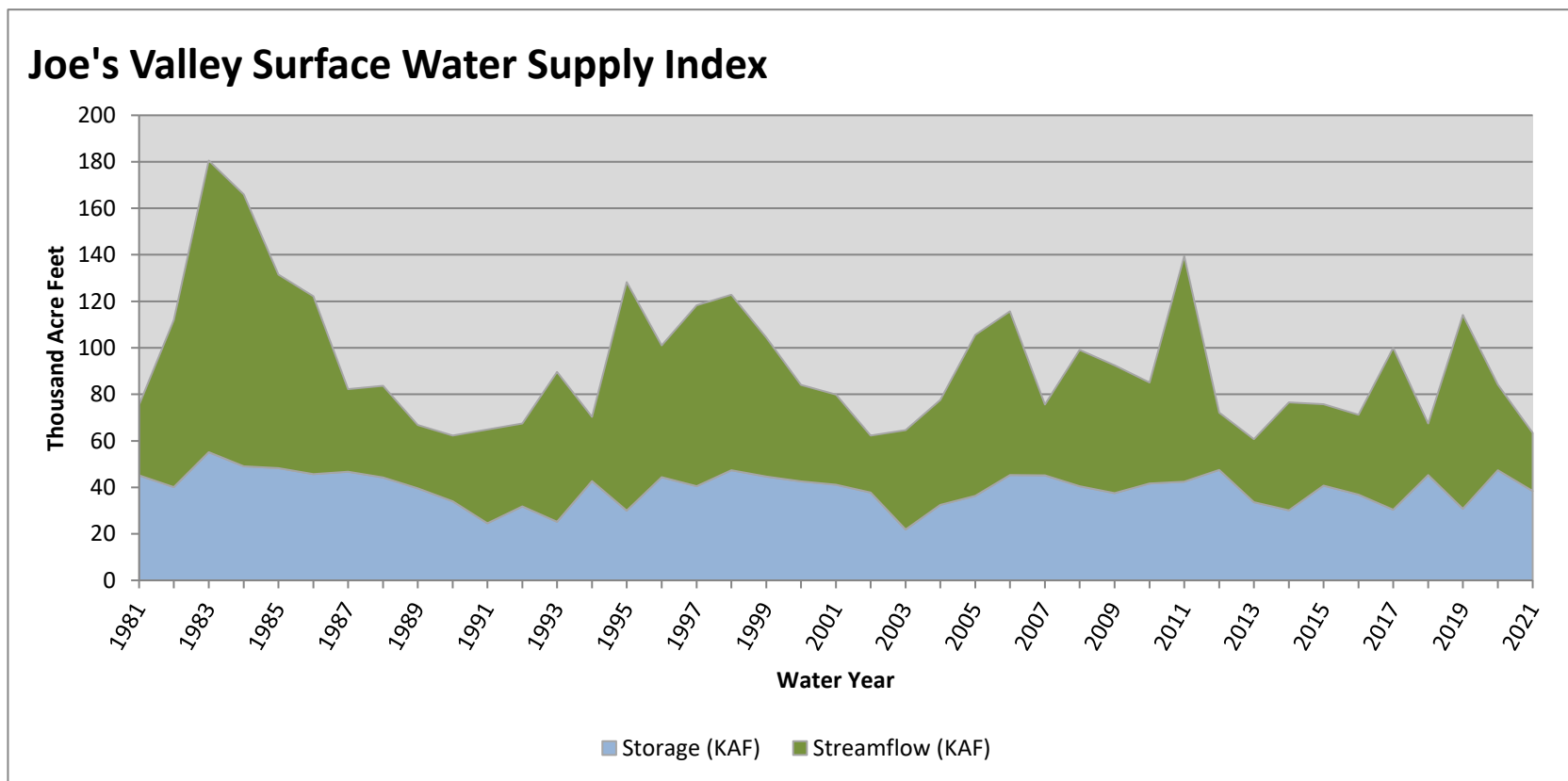


February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Joe's Valley	38.39	25.00	63.39	10	-3.37	90, 02, 03, 91

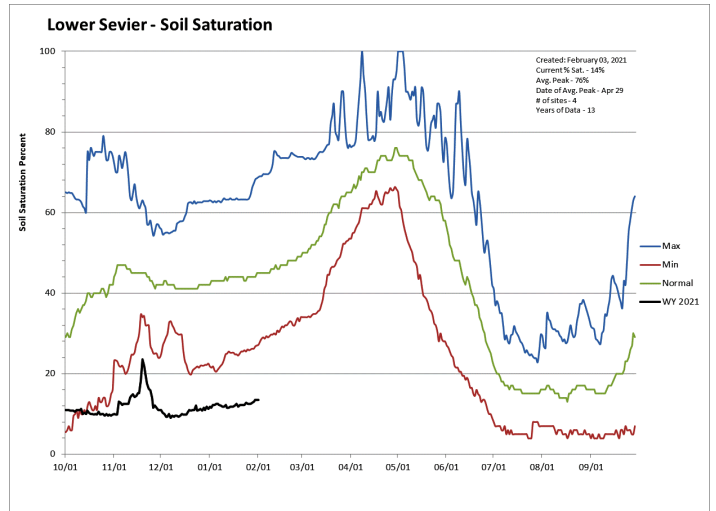
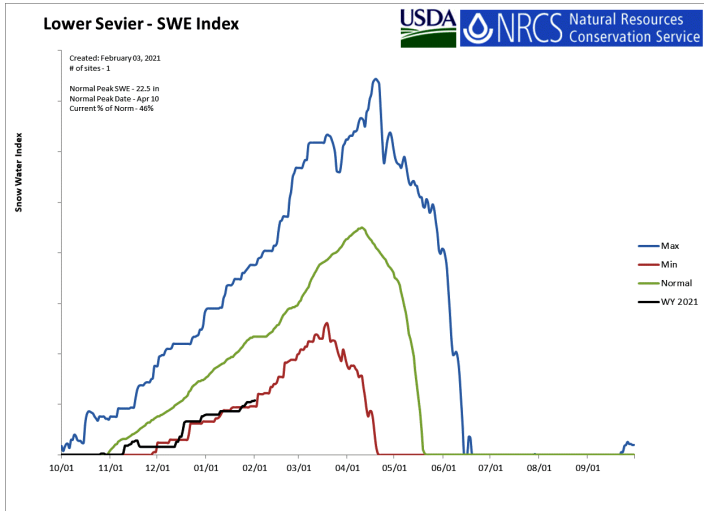
^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.



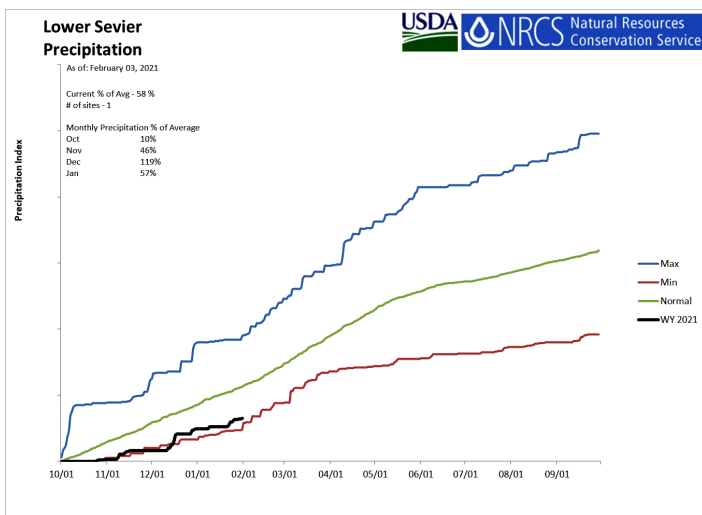
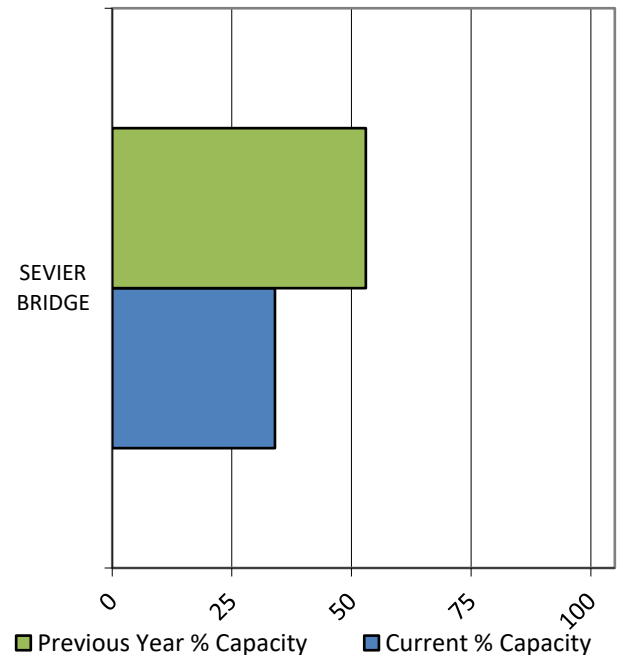
Lower Sevier Basin

February 1, 2021

Snowpack in the Lower Sevier Basin is much below normal at 46% of normal, compared to 117% last year. Precipitation in January was much below average at 57%, which brings the seasonal accumulation (Oct-Jan) to 58% of average. Soil moisture is at 14% compared to 33% last year. Reservoir storage is at 34% of capacity, compared to 53% last year. The forecast streamflow volume for the Sevier River nr Gunnison is 69% of average. The surface water supply index is 33% for the Lower Sevier.



Reservoir Storage



Lower Sevier
Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Lower Sevier	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Chicken Ck nr Levan								
Sevier R nr Gunnison	APR-JUL	14.9	46	68	69%	89	120	99
Oak Ck nr Oak City								

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Sevier Bridge Reservoir	79.4	124.9	155.7	236.0
Basin-wide Total	79.4	124.9	155.7	236.0
# of reservoirs	1	1	1	1

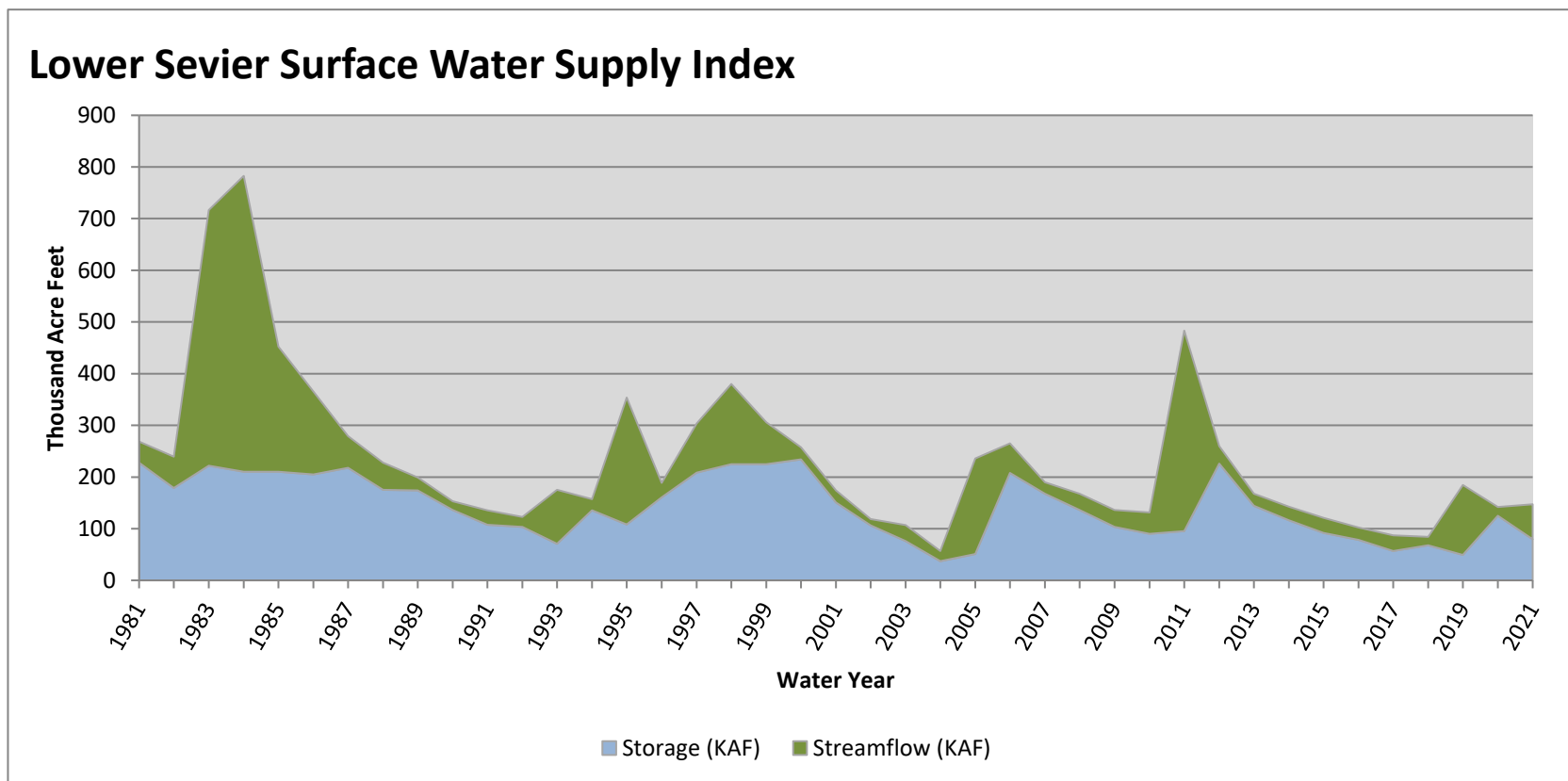
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Lower Sevier	1	46%	117%

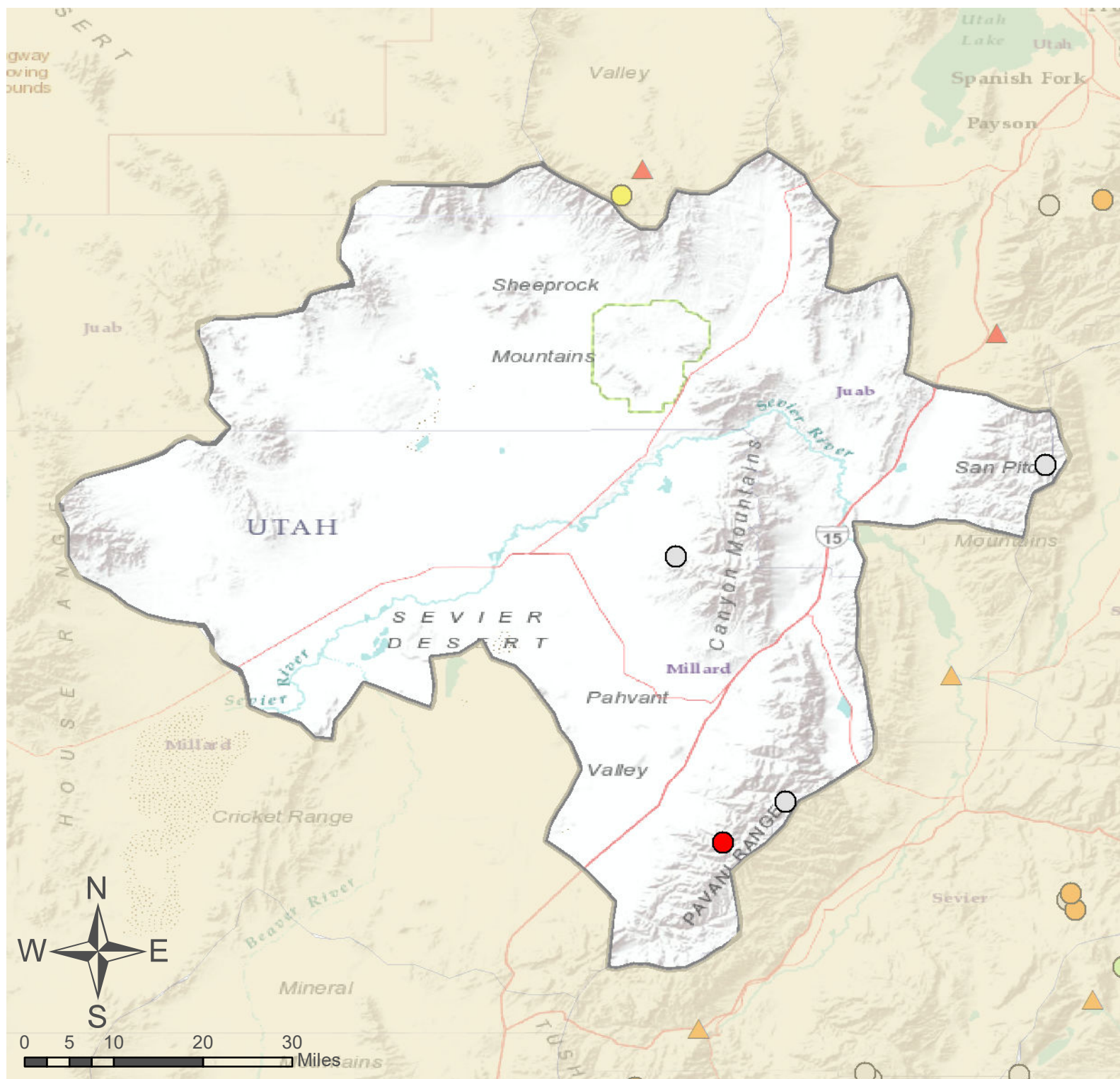
February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Lower Sevier	79.39	68.00	147.39	33	-1.39	20, 14, 90, 94

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.





Lower Sevier Basin

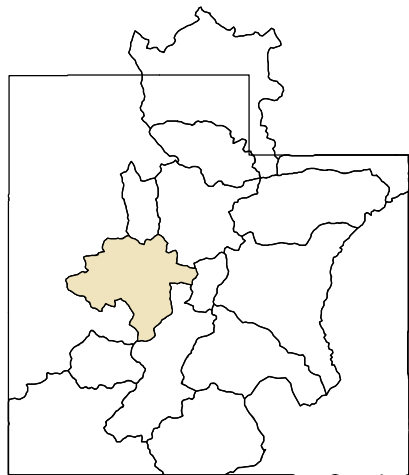
- SNOTEL Site
- △ Forecast Point

As of February 1, 2021:

- 46% of Normal SWE
- 58% of Normal Precipitation
- 57% of Normal Precipitation Last Month
- 14% Saturation Soil Moisture
- Lower Sevier Basin

% of Normal

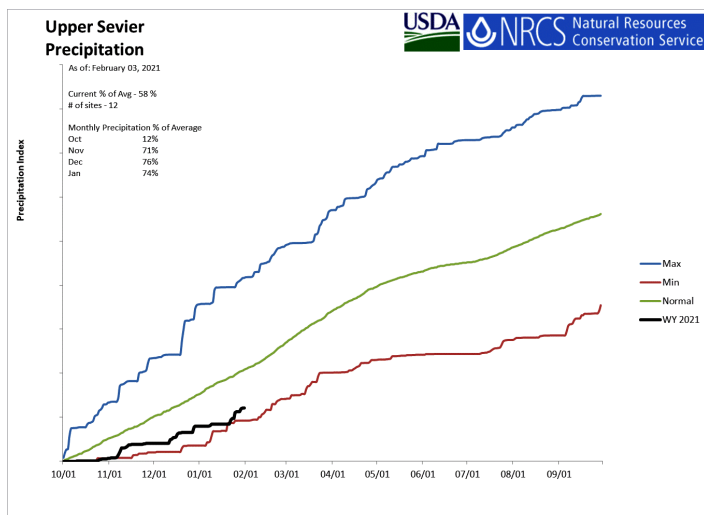
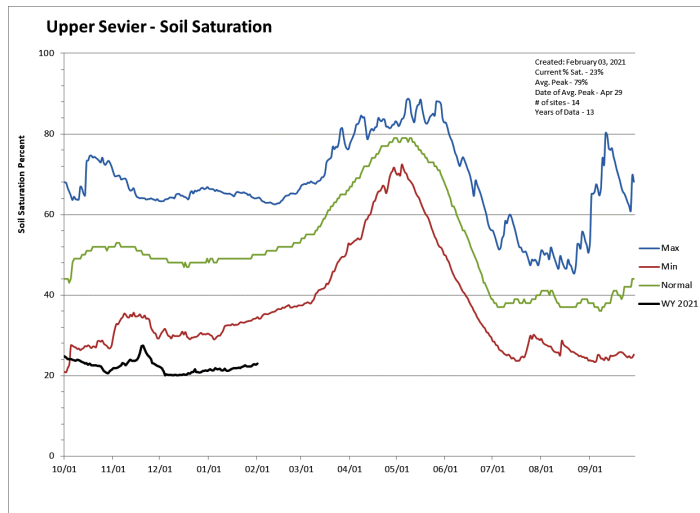
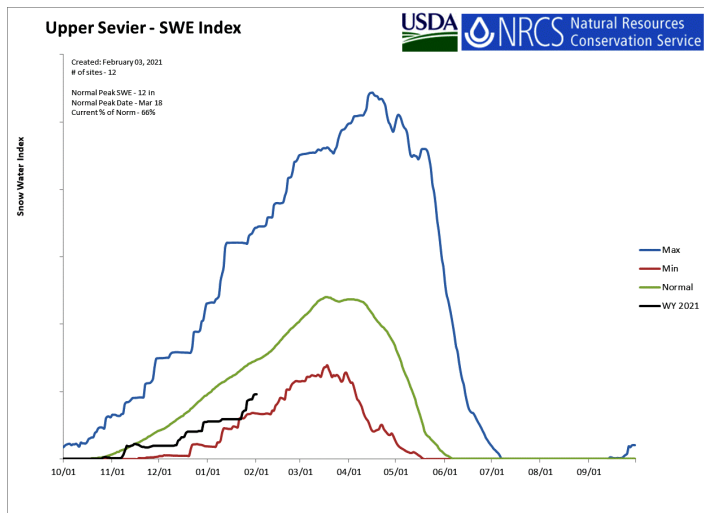
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



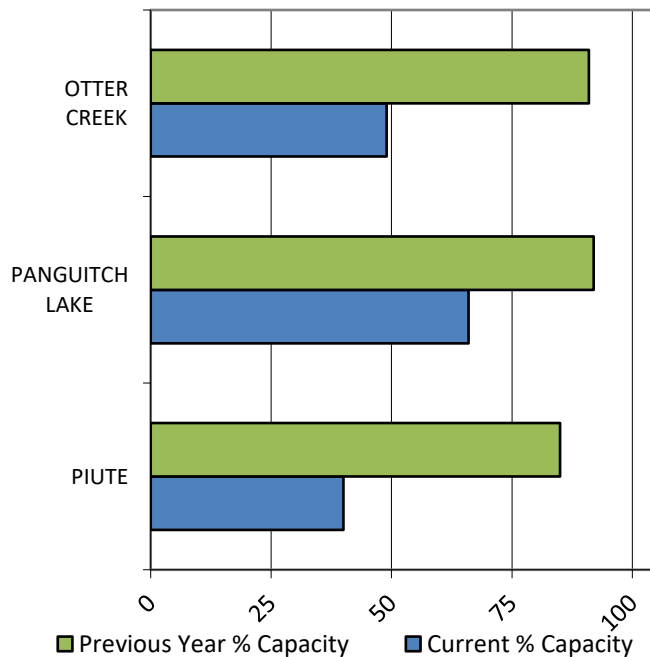
Upper Sevier Basin

February 1, 2021

Snowpack in the Upper Sevier Basin is much below normal at 66% of normal, compared to 133% last year. Precipitation in January was below average at 74%, which brings the seasonal accumulation (Oct-Jan) to 58% of average. Soil moisture is at 23% compared to 39% last year. Reservoir storage is at 47% of capacity, compared to 88% last year. Forecast streamflow volumes range from 33% to 64% of average. The surface water supply index is 21% for the Upper Sevier.



Reservoir Storage



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Upper Sevier Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Upper Sevier	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mammoth Ck nr Hatch	APR-JUL	0.54	4.3	15.4	57%	29	41	27
Sevier R at Hatch	APR-JUL	2.4	12.1	22	46%	32	46	48
EF Sevier R nr Kingston	APR-JUL	1.05	10.9	20	57%	29	42	35
Sevier R nr Kingston	APR-JUL	0.99	6.7	21	64%	35	56	33
Sevier R bl Piute Dam	APR-JUL	4	20	42	64%	64	96	66
Clear Ck ab Diversions nr Sevier	APR-JUL	0.63	6.1	11	52%	15.9	23	21
Salina Ck nr Emery	APR-JUL	0.24	1.19	2.6	33%	5.1	8.9	7.9

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Piute Reservoir	28.7	60.9	49.2	71.8
Otter Creek Reservoir	25.8	48.0	35.0	52.5
Panguitch Lake	14.8	20.5	12.7	22.3
Basin-wide Total	69.3	129.4	96.9	146.6
# of reservoirs	3	3	3	3

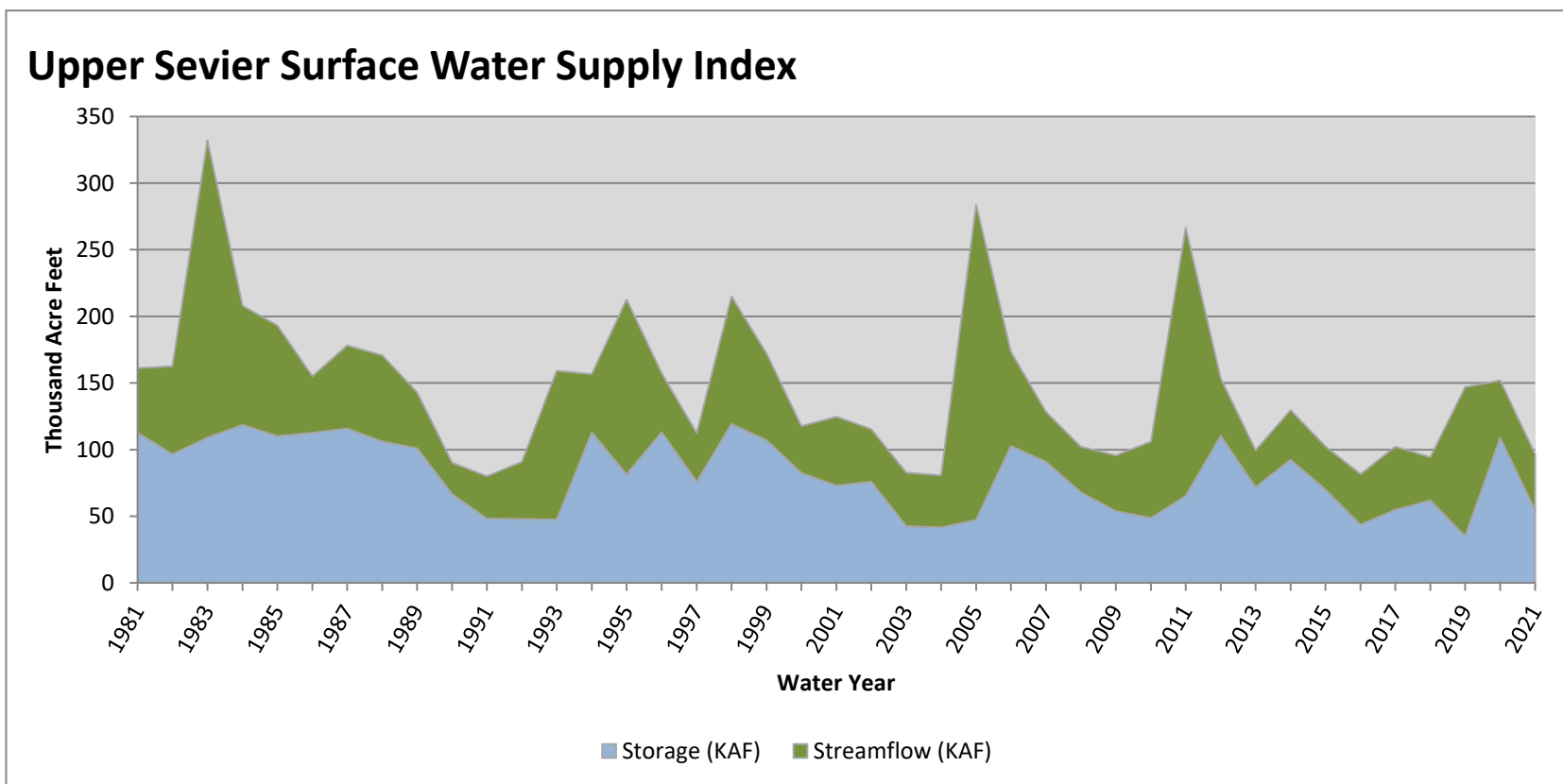
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Upper Sevier	12	66%	133%
Middle Sevier	7	57%	105%
East Fork Sevier River	3	82%	161%

February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similiar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Upper Sevier	54.50	42.00	96.50	21	-2.38	18, 09, 13, 17

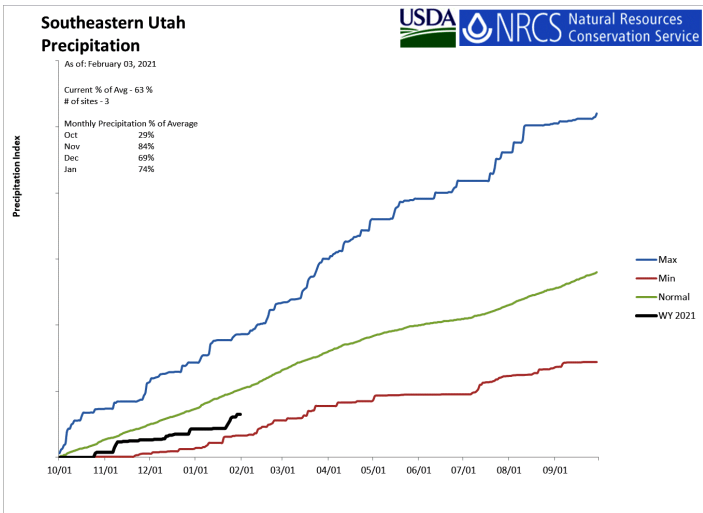
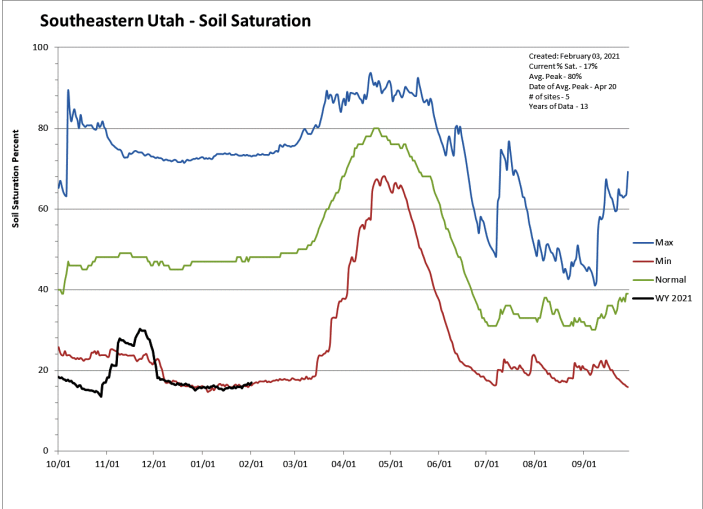
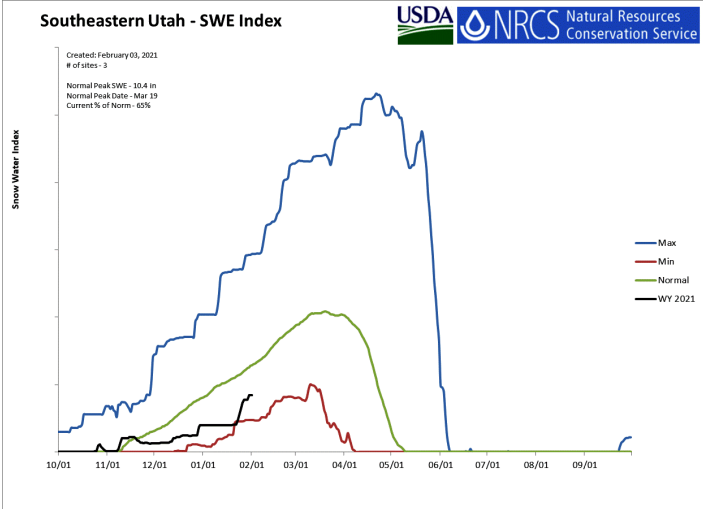
^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.



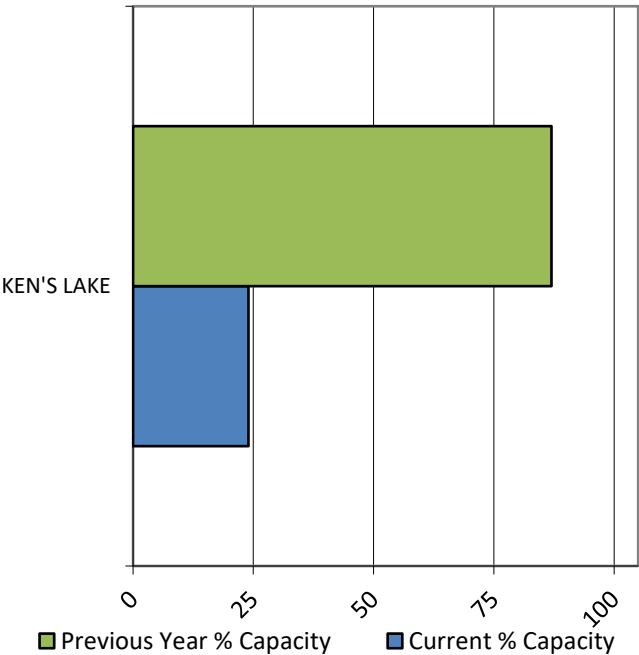
Southeastern Utah

February 1, 2021

Snowpack in the Southeastern Utah is much below normal at 65% of normal, compared to 140% last year. Precipitation in January was below average at 74%, which brings the seasonal accumulation (Oct-Jan) to 64% of average. Soil moisture is at 17% compared to 35% last year. Reservoir storage is at 24% of capacity, compared to 87% last year. Forecast streamflow volumes range from 24% to 53% of average. The surface water supply index is 17% for Moab.



Reservoir Storage



Southeastern Utah
Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Southeastern Utah	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mill Ck at Sheley Tunnel nr Moab	APR-JUL	0.94	1.68	2.3	53%	3	4.3	4.3
South Ck ab Resv nr Monticello	MAR-JUL	0.04	0.14	0.26	24%	0.43	0.8	1.09
Colorado R nr Cisco ²	APR-JUL	1160	1750	2210	52%	2740	3610	4280
San Juan R near Bluff ²	APR-JUL	260	410	530	48%	665	895	1100

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Ken's Lake	0.6	2.0	1.1	2.3
Basin-wide Total	0.6	2.0	1.1	2.3
# of reservoirs	1	1	1	1

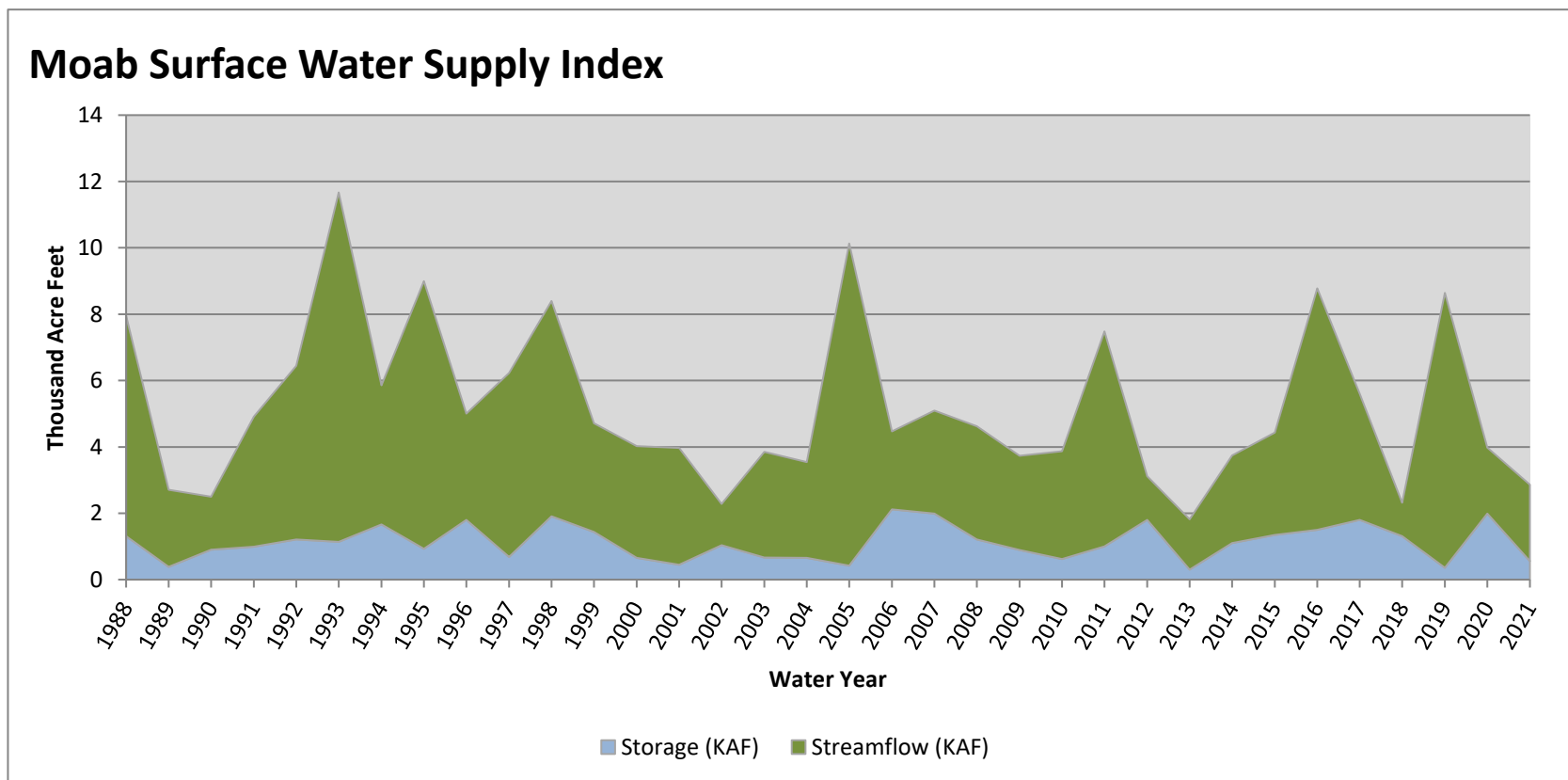
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Lasal Mountains	1	55%	107%
Lower San Juan	1	76%	178%
Lower Green	2	73%	143%
Henry Mountains	0		

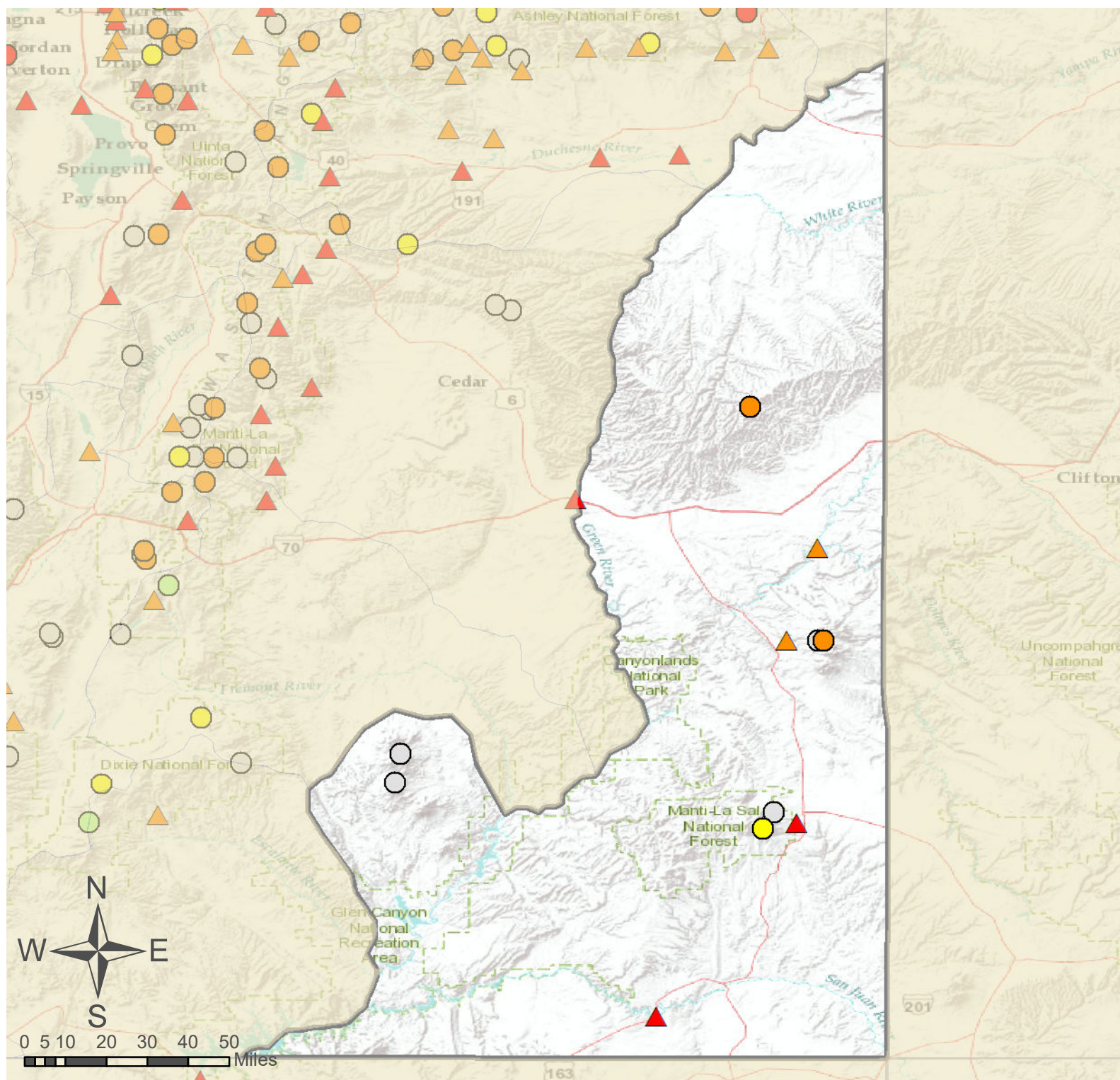
February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Moab	0.56	2.30	2.86	17	-2.74	90, 89, 12, 04

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.





Southeastern Utah

- SNOTEL Site
- △ Forecast Point

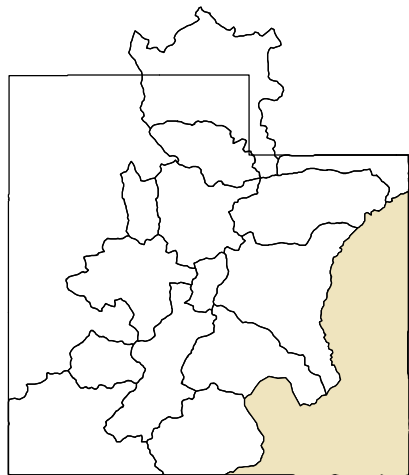
As of February 1, 2021:

- 65% of Normal SWE
- 64% of Normal Precipitation
- 74% of Normal Precipitation Last Month
- 17% Saturation Soil Moisture

Southeastern Utah

% of Normal

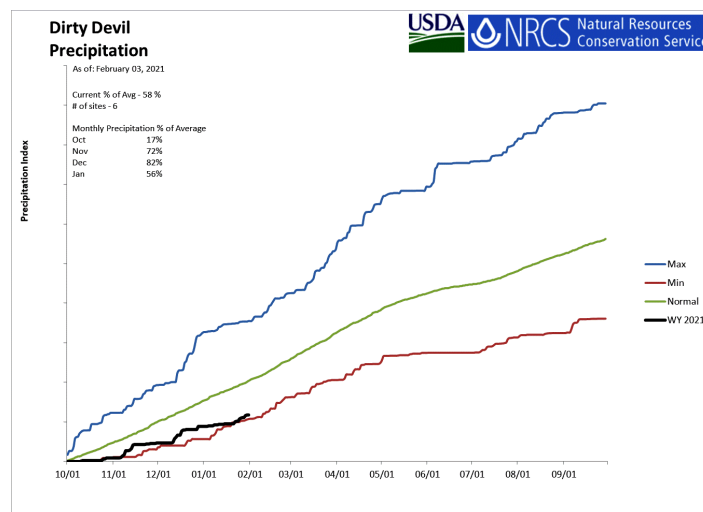
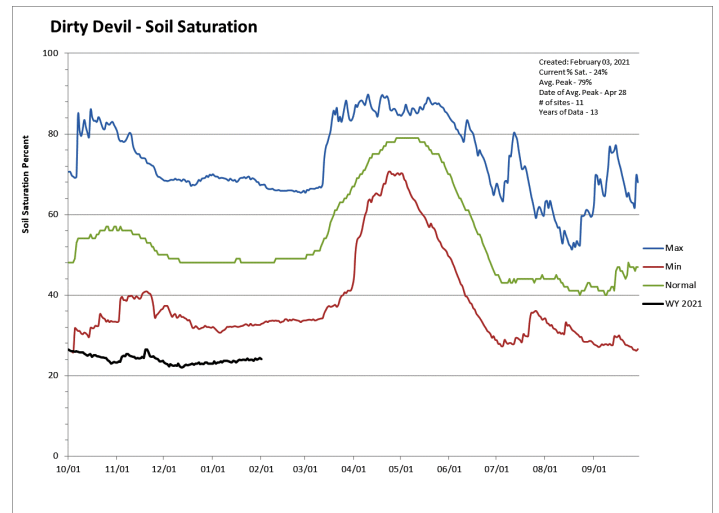
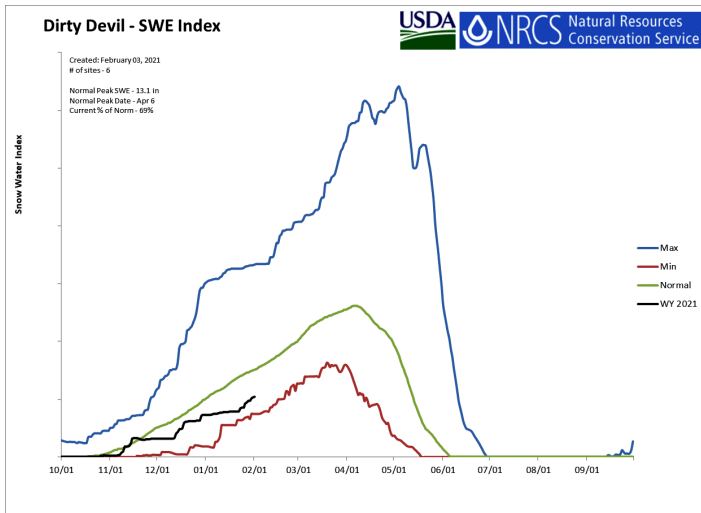
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



Dirty Devil Basin

February 1, 2021

Snowpack in the Dirty Devil Basin is much below normal at 69% of normal, compared to 116% last year. Precipitation in January was much below average at 55%, which brings the seasonal accumulation (Oct-Jan) to 58% of average. Soil moisture is at 23% compared to 34% last year. Forecast streamflow volumes range from 40% to 49% of average.



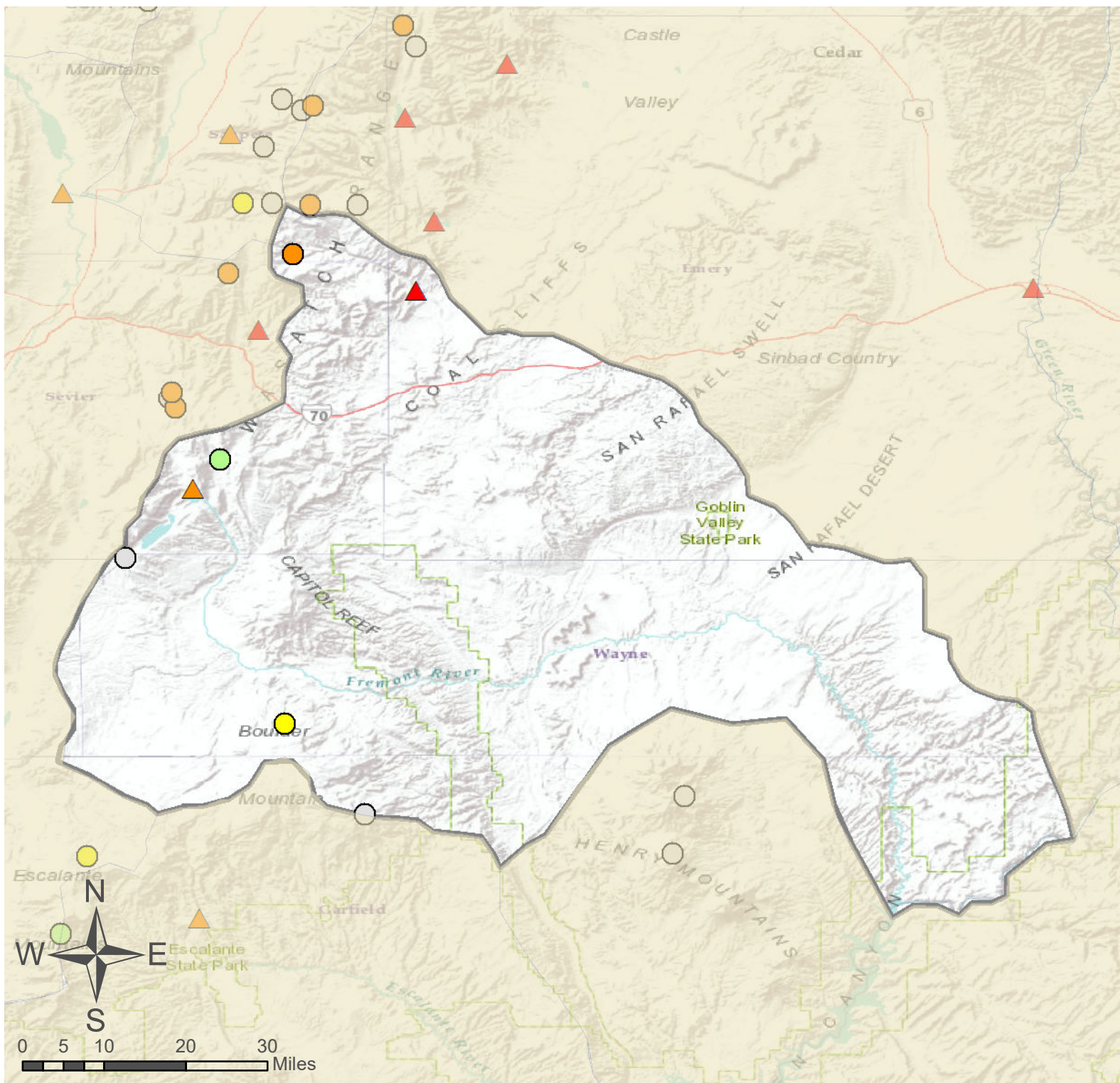
Dirty Devil
Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Dirty Devil	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Muddy Ck nr Emery	APR-JUL	3.4	5.9	8	40%	10.4	14.5	19.9
Seven Mile Ck nr Fish Lake	APR-JUL	1.43	2.6	3.6	49%	4.8	6.8	7.3

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Muddy Creek	3	64%	108%
Fremont River	3	75%	127%
Henry Mountains	0		



Dirty Devil Basin

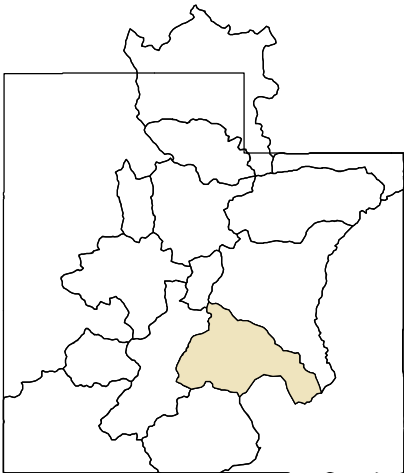
- SNOTEL Site
- △ Forecast Point

As of February 1, 2021:

69% of Normal SWE
 58% of Normal Precipitation
 55% of Normal Precipitation Last Month
 23% Saturation Soil Moisture
 Dirty Devil Basin

% of Normal

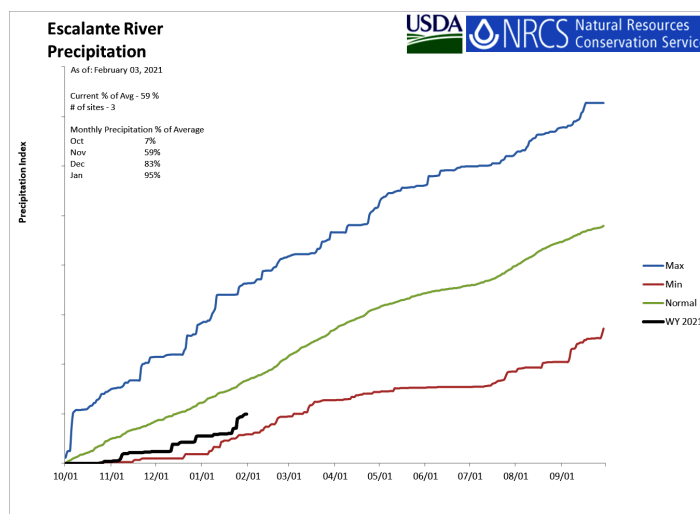
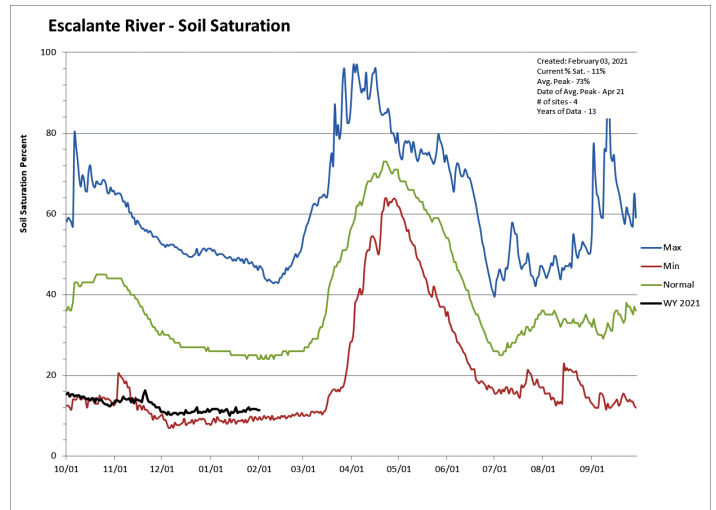
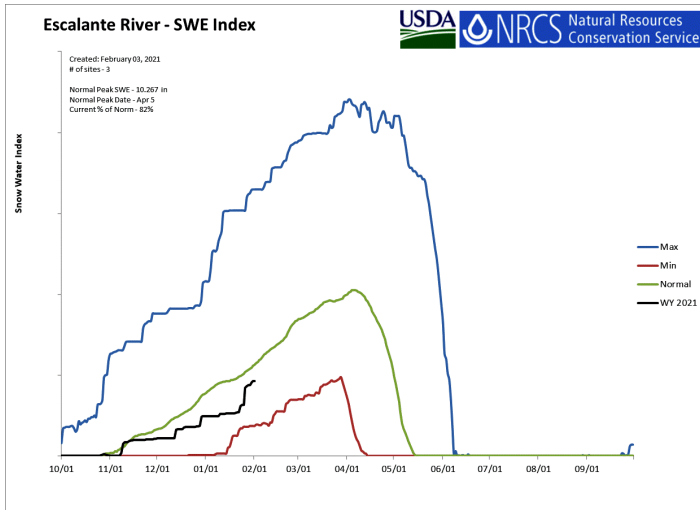
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



Escalante River Basin

February 1, 2021

Snowpack in the Escalante River Basin is below normal at 82% of normal, compared to 154% last year. Precipitation in January was near average at 94%, which brings the seasonal accumulation (Oct-Jan) to 59% of average. Soil moisture is at 12% compared to 15% last year. The forecast streamflow volume for Pine Creek is 63% of average.



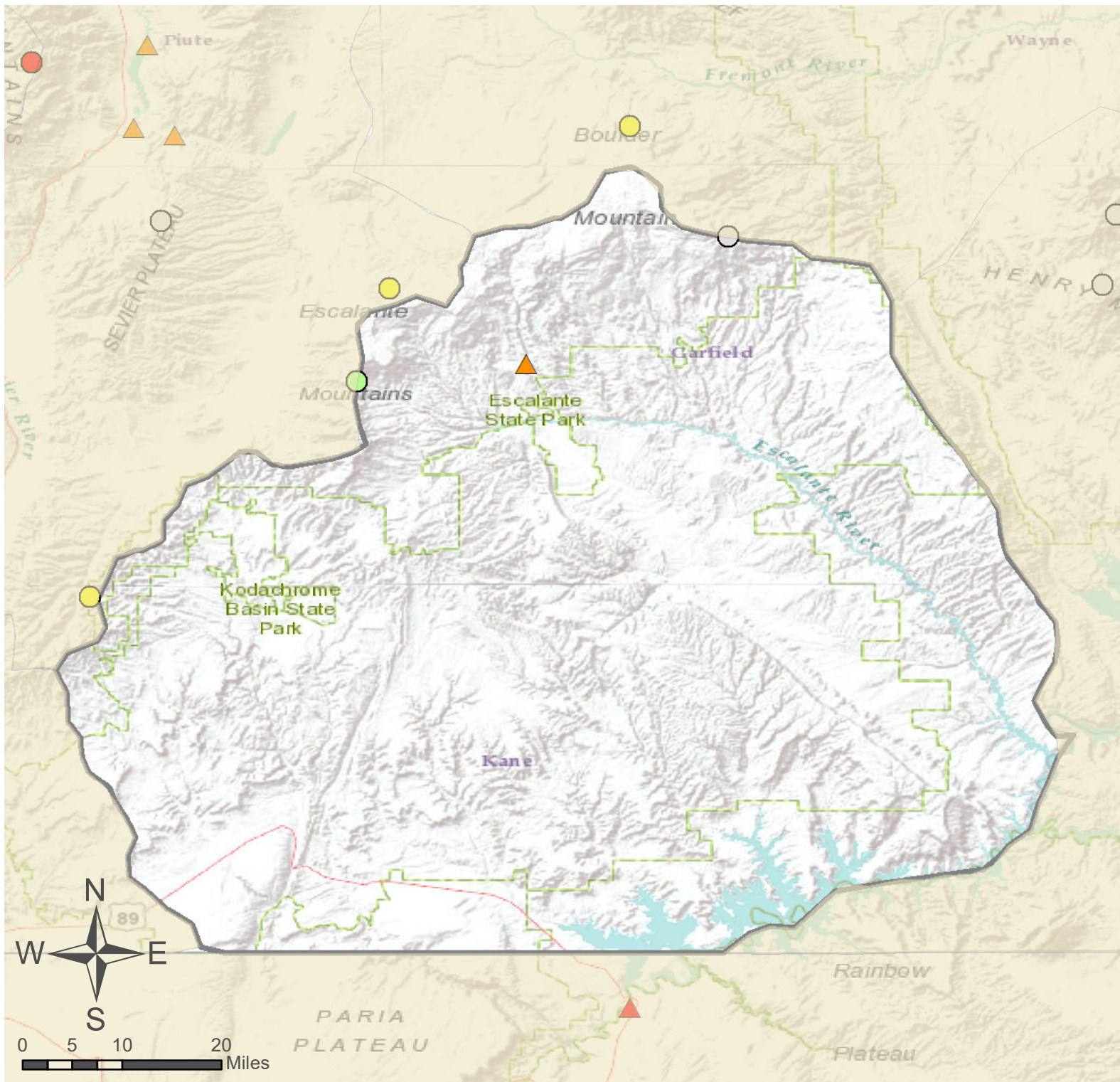
Escalante River
Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

Escalante River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Pine Ck nr Escalante	APR-JUL	0.46	1.01	1.5	63%	2.1	3.1	2.4

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Escalante River	3	82%	154%
Paria River	2	91%	165%



Escalante River Basin

- SNOTEL Site
- △ Forecast Point

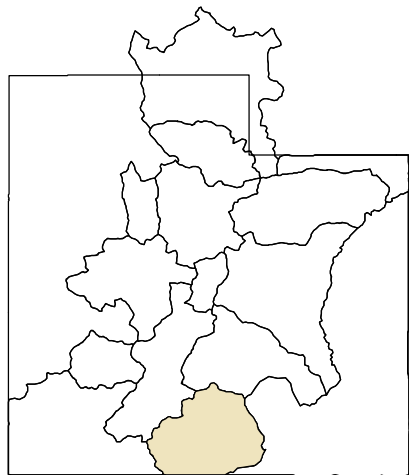
As of February 1, 2021:

- 82% of Normal SWE
- 59% of Normal Precipitation
- 94% of Normal Precipitation Last Month
- 12% Saturation Soil Moisture

Escalante River Basin

% of Normal

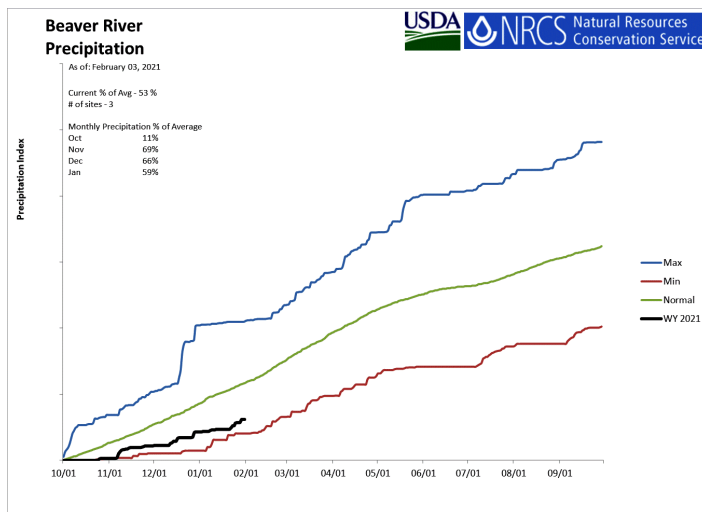
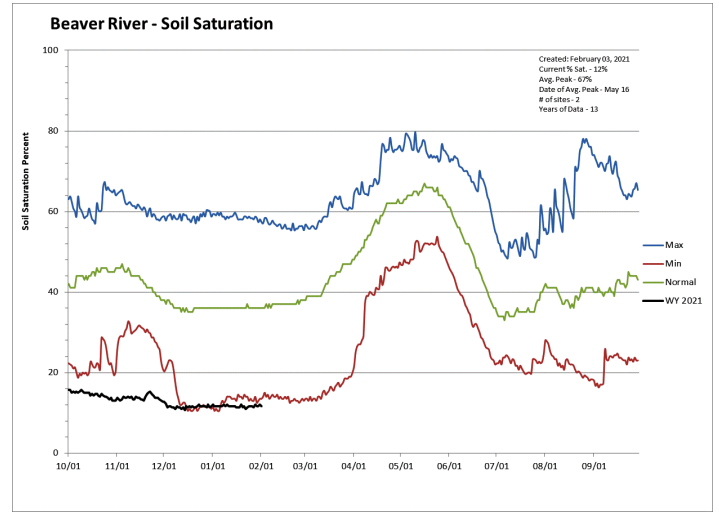
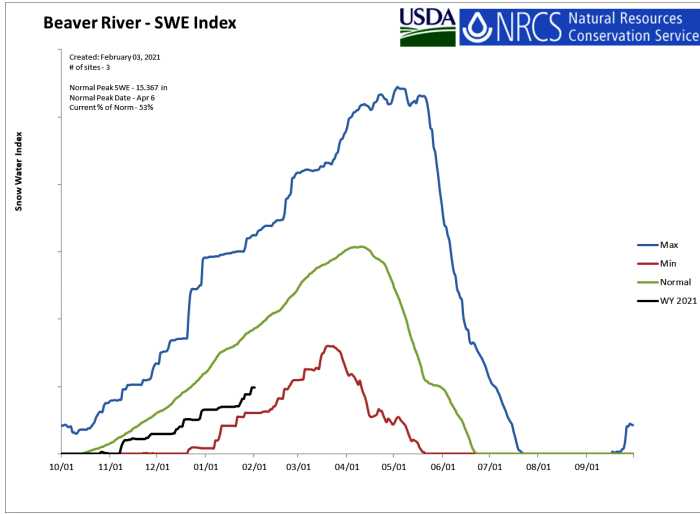
- < 50%
- 50 - 69%
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- > 150%
- No Normal



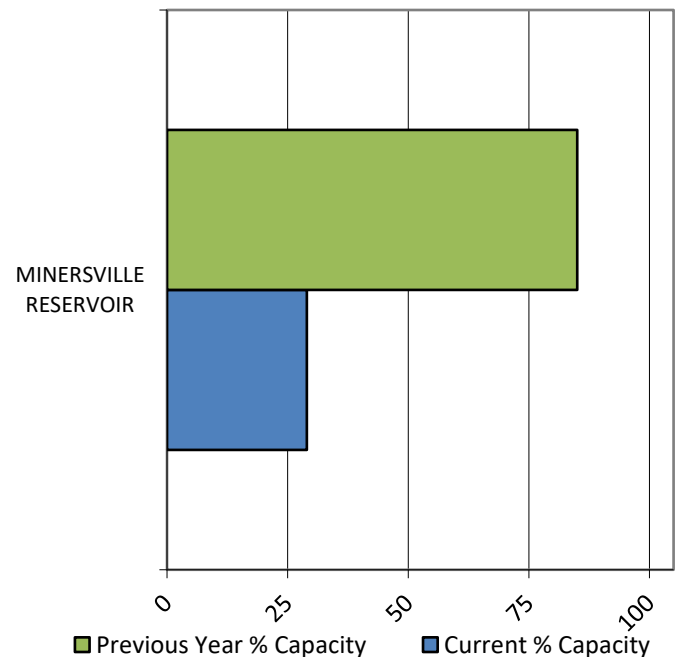
Beaver River Basin

February 1, 2021

Snowpack in the Beaver River Basin is much below normal at 53% of normal, compared to 97% last year. Precipitation in January was much below average at 60%, which brings the seasonal accumulation (Oct-Jan) to 53% of average. Soil moisture is at 12% compared to 26% last year. Reservoir storage is at 29% of capacity, compared to 85% last year. The forecast streamflow volume for the Beaver River is 54% of average. The surface water supply index is 12% for the Beaver River.



Reservoir Storage



Beaver River
Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

Beaver River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Beaver R nr Beaver	APR-JUL	-0.88	8	14	54%	20	29	26

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Minersville Reservoir	6.7	19.8	13.4	23.3
Basin-wide Total	6.7	19.8	13.4	23.3
# of reservoirs	1	1	1	1

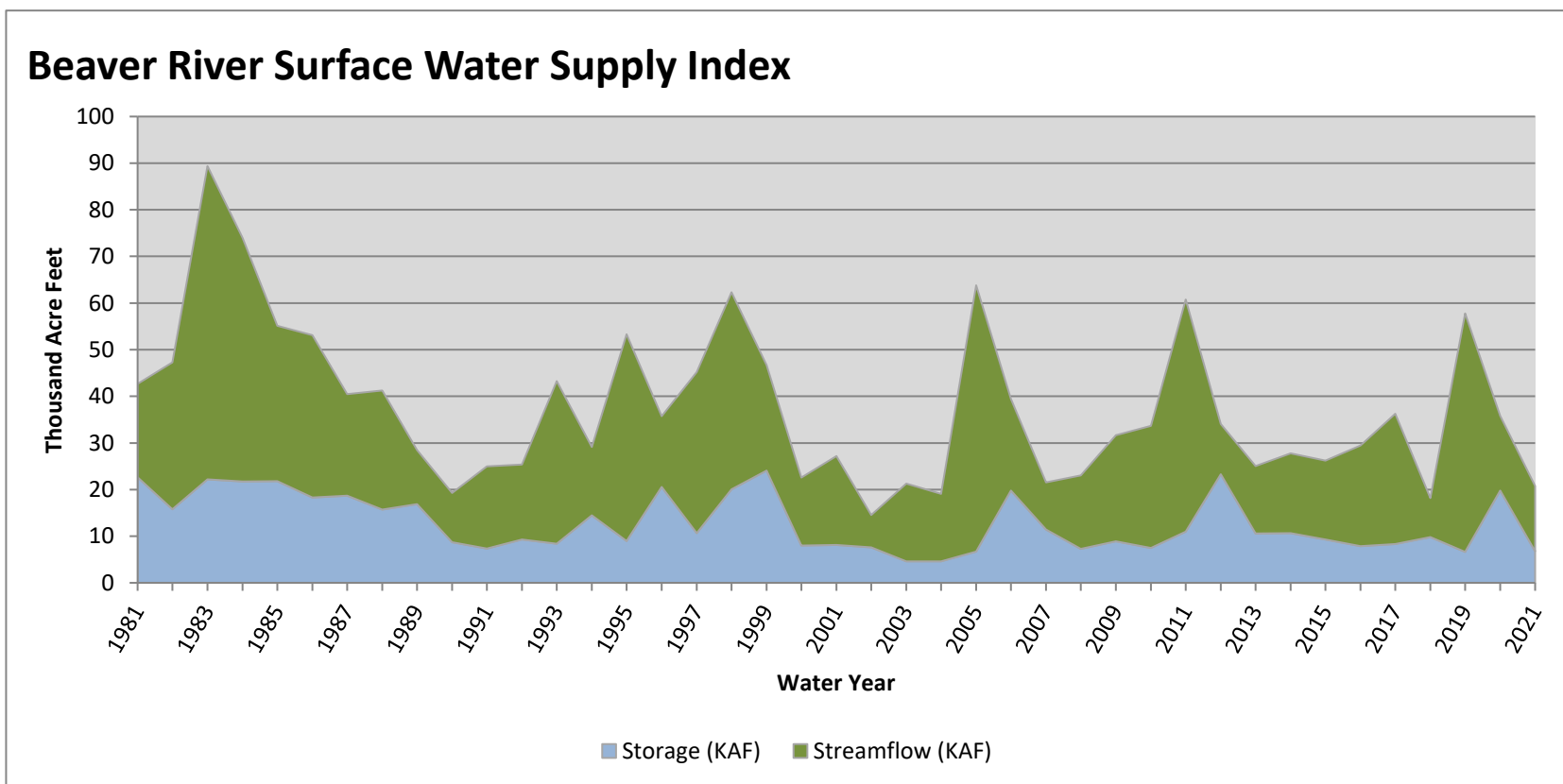
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Beaver River	3	53%	97%

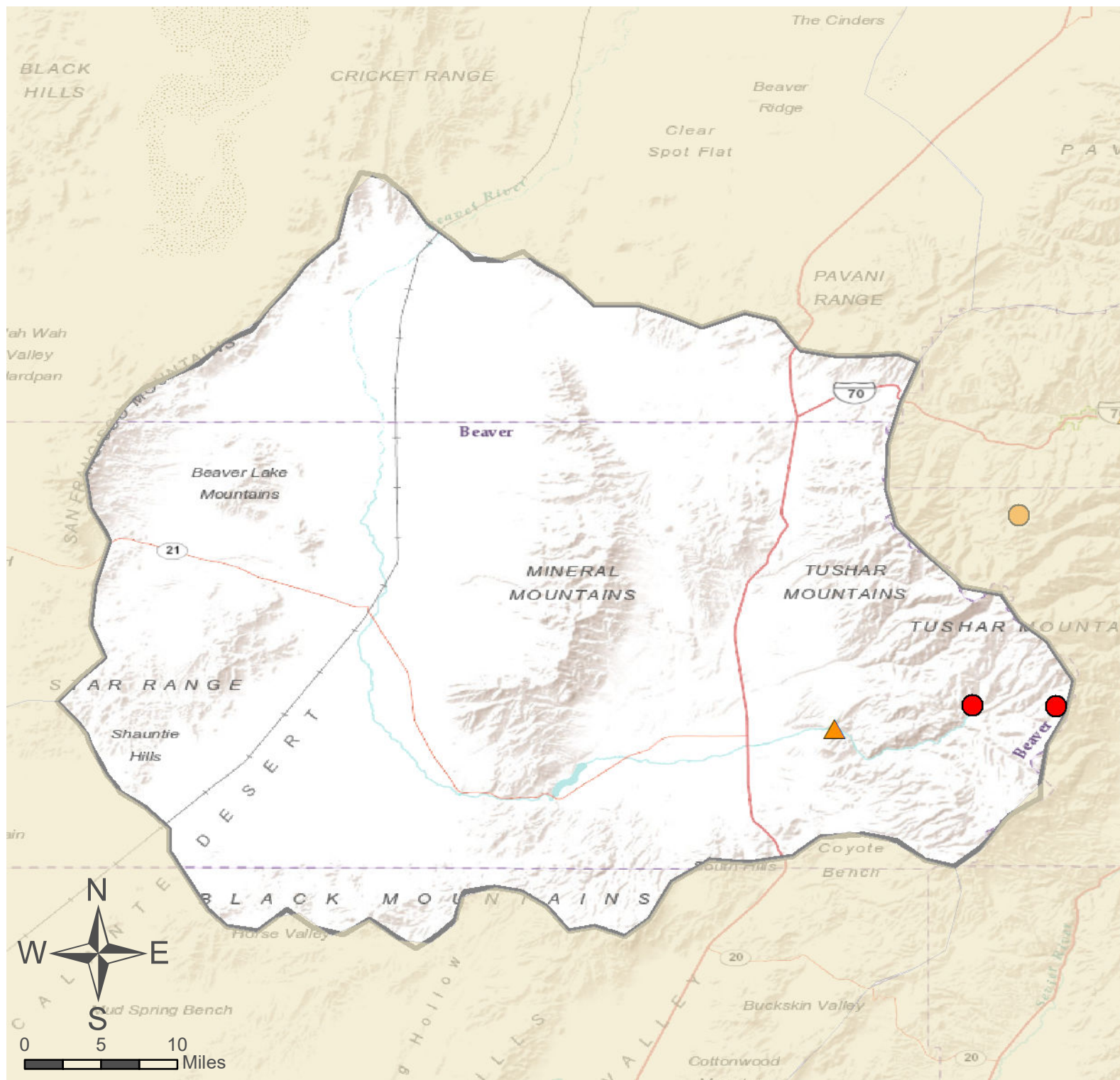
February 1, 2021

Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Beaver River	6.74	14.00	20.74	12	-3.17	04, 90, 03, 07

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.





Beaver River Basin

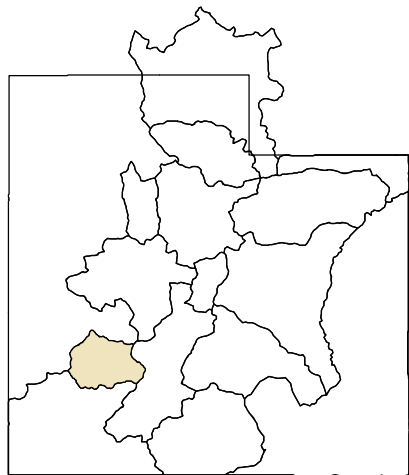
- SNOTEL Site
- △ Forecast Point

As of February 1, 2021:

53% of Normal SWE
 53% of Normal Precipitation
 60% of Normal Precipitation Last Month
 12% Saturation Soil Moisture
 Beaver River Basin

% of Normal

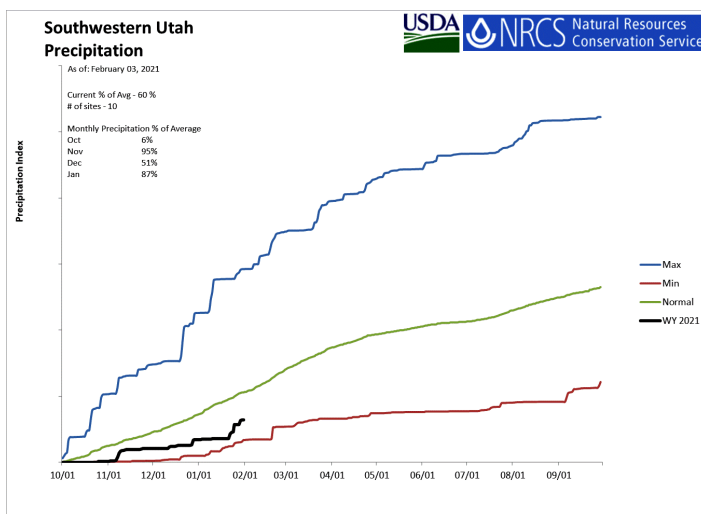
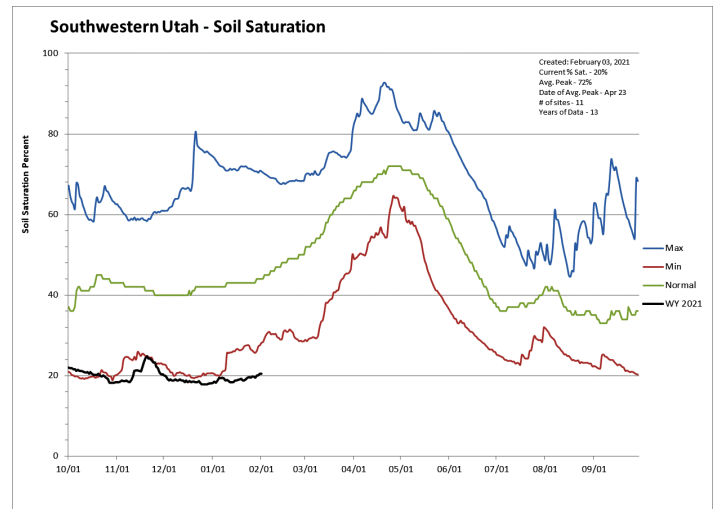
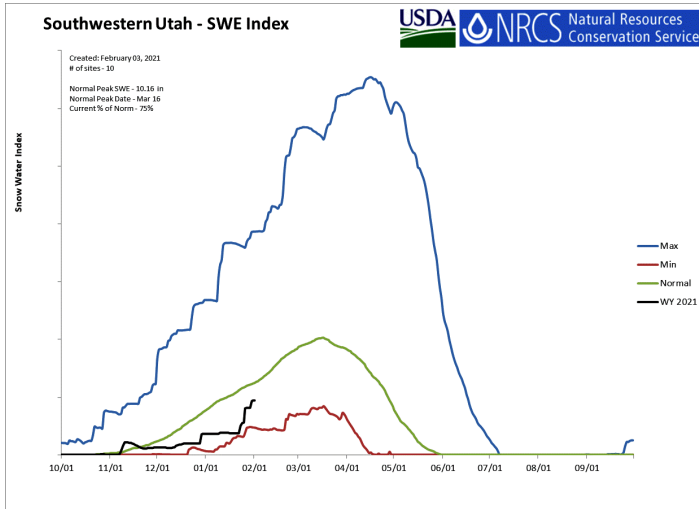
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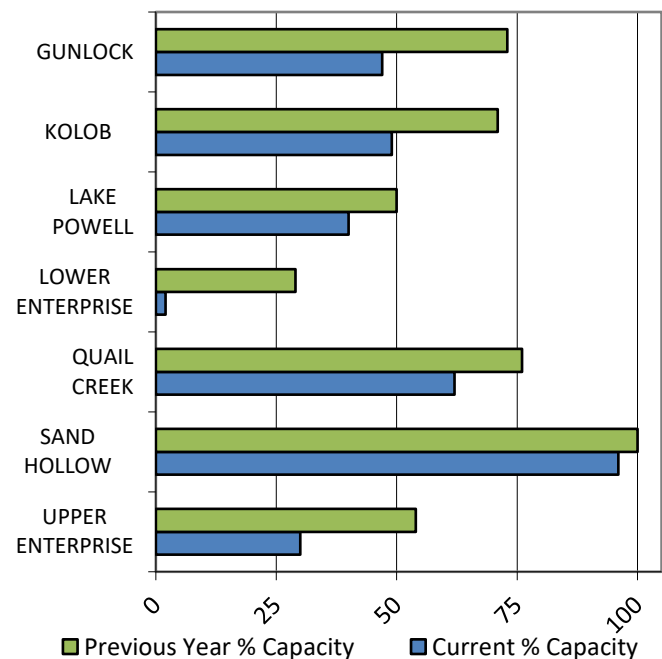
Southwestern Utah

February 1, 2021

Snowpack in the Southwestern Utah is below normal at 75% of normal, compared to 149% last year. Precipitation in January was below average at 87%, which brings the seasonal accumulation (Oct-Jan) to 60% of average. Soil moisture is at 20% compared to 40% last year. Reservoir storage is at 40% of capacity, compared to 51% last year. Forecast streamflow volumes range from 42% to 43% of average. The surface water supply index is 3% for the Virgin River.



Reservoir Storage



Southwestern Utah Streamflow Forecasts - February 1, 2021

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

Southwestern Utah	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lake Powell Inflow ²	APR-JUL	1240	2190	3000	42%	3930	5530	7160
Virgin R nr Hurricane	APR-JUL	0.63	8.2	26	41%	47	78	63
Virgin R at Virgin	APR-JUL	8.9	18.5	27	47%	37	55	58
Santa Clara R nr Pine Valley	APR-JUL	0.51	1.42	2.3	46%	3.4	5.3	5.0
Coal Ck nr Cedar City	APR-JUL	0.78	4.2	8.4	43%	12.6	18.9	19.4

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Powell	9638.5	12280.7	17338.0	24322.0
Lower Enterprise	0.1	0.8	0.6	2.6
Upper Enterprise	3.0	5.4	3.1	10.0
Kolob Reservoir	2.7	4.0		5.6
Gunlock	4.9	7.6	6.5	10.4
Sand Hollow Reservoir	48.0	49.8		50.0
Quail Creek	24.9	30.4	26.0	40.0
Basin-wide Total	9671.3	12324.8	17374.2	24385.0
# of reservoirs	5	5	5	5

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Upper Virgin	8	78%	144%
Lower Virgin	2	112%	137%
Coal Parowan Creeks	4	70%	144%

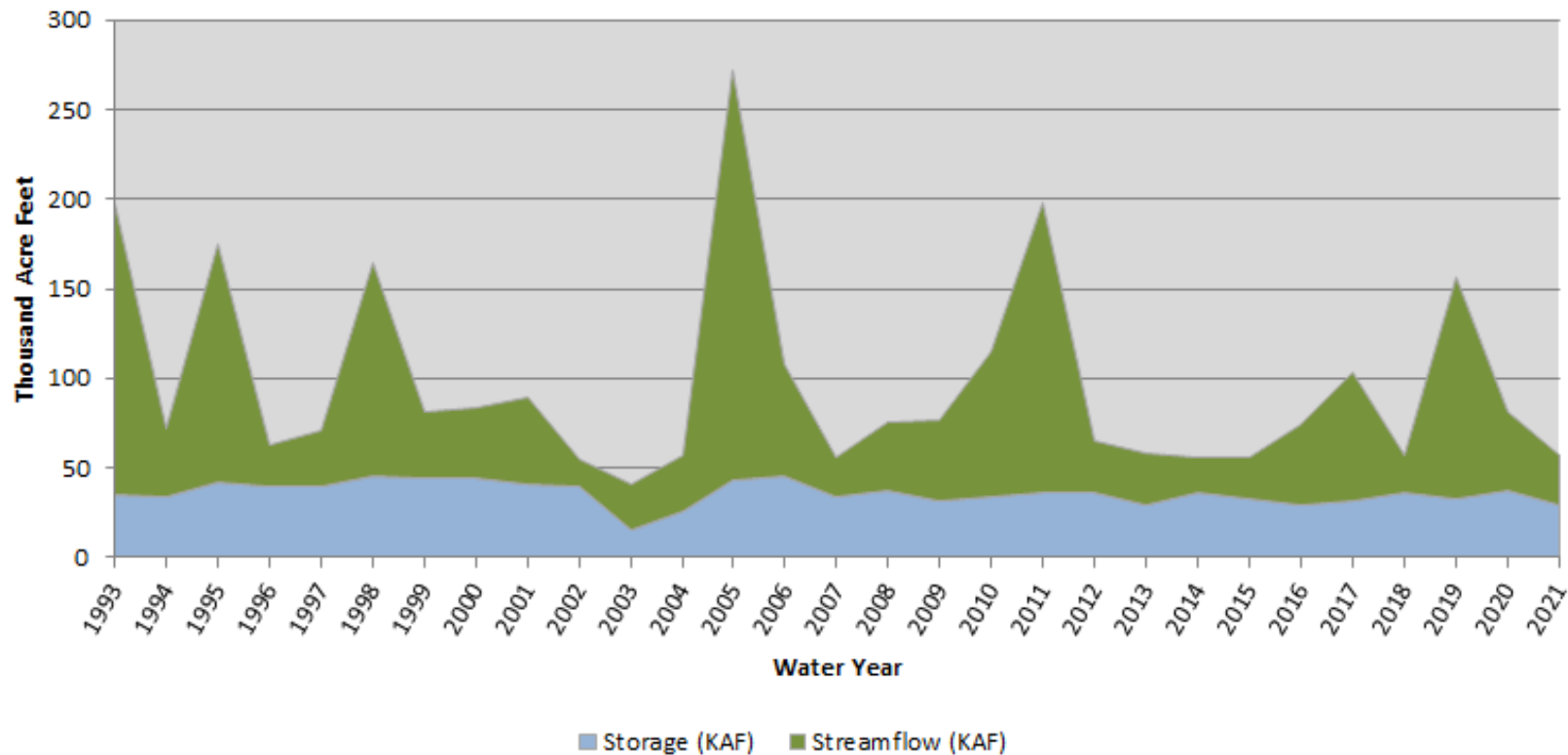
February 1, 2021

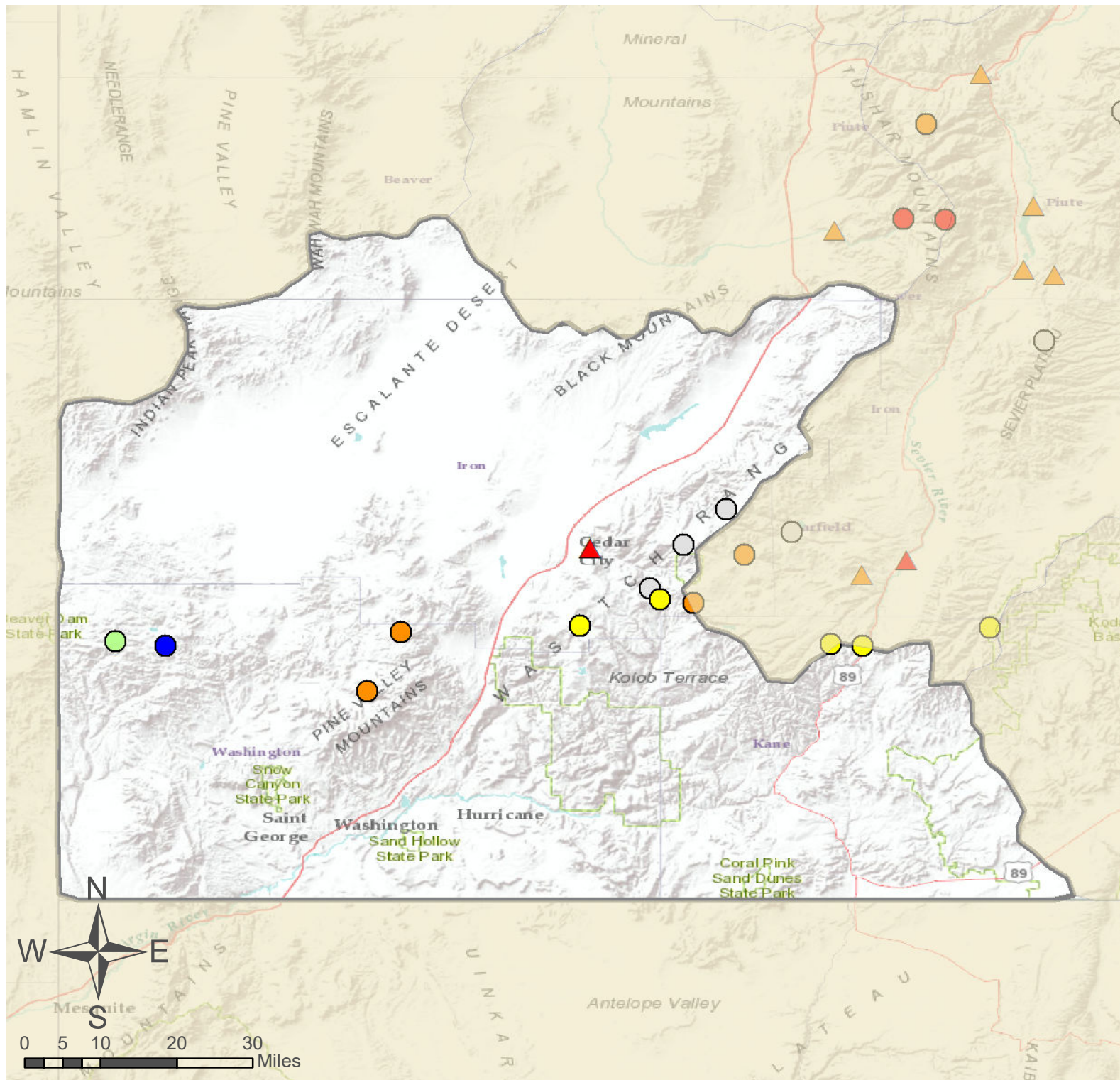
Surface Water Supply Index

Basin or Region	Jan EOM [*] Storage	APR-JUL Forecast	Storage + Forecast	Percentile	SWSI [#]	Years with similar SWSI
	KAF [^]	KAF [^]	KAF [^]	%		
Virgin River	29.74	27	56.74	20	-2.5	15, 07, 04, 18

^{*}EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.

Virgin River Surface Water Supply Index





Southwestern Utah

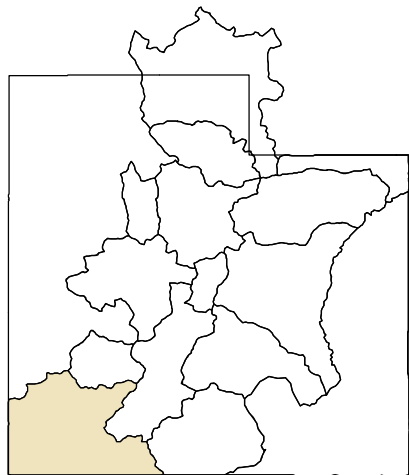
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 Southwestern Utah

% of Normal

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Utah Water Supply Outlook Report

Natural Resources Conservation Service
Salt Lake City, UT

